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Final Report No. 15

ARCHAEOLOGICAL RESEARCH IN
THE KAME HILLS LOCALITY OF
SOUTHERN INDIAN LAKE

by

Gary A. Dickson

DEPARTMENT OF CULTURAL AFFAIRS AND HISTORICAL RESOURCES

1983

IMPORTANT

- 12 Every person who finds an artifact or a paleontological object or skeletal remains or any object which he suspects might be an artifact or a paleontological object or skeletal remains shall forthwith report the find to the minister in writing.

S.M., 1966-67, c. 22, s. 12.

- 13(1) No person shall excavate for historic or archaeological research or purposes or search for or excavate for artifacts, paleontological objects or skeletal remains without a valid subsisting permit to do so issued under the regulations.

Manitoba Historic Sites and Objects Act, S.M.,
1966 - 67, c. 22, s. 1.

Manitoba Regulation 30/80

Being a Regulation Under The Historic Sites and Objects Act Respecting
Permits for Conducting Archaeological or Paleontological
Field Research in the Province of Manitoba

(Filed February 29, 1980)

1. Any person wishing to conduct or carry out archaeological or paleontological field research in Manitoba shall first obtain a permit for the purpose from the Historic Resources Branch, Department of Cultural Affairs and Historical Resources.
2. An application for a permit to conduct or carry out archaeological or paleontological field research shall be made on Form 1 attached hereto.
3. There shall be a separate permit for each site or area at which archaeological or paleontological field research is to be carried out.
4. Each permit is subject to the special terms and conditions attached thereto or prescribed thereon.

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Historic Resources Branch
Department of Cultural Affairs and
Historical Resources

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Table A

Assistant Field Supervisors

Chris Brown, 1972
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 Fridrik Kristjansson, 1974
 Kristjana Dickson, 1975

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 Mary Hutchings, 1974
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 Robert Chanin, 1972, 1973
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 Kristjana Dickson, 1972, 1973, 1974
 Stanley Fetterly, 1972, 1973
 Michael Graham, 1974, 1975
 Ronald Greening, 1974, 1975
 Fritz Hamer, 1973, 1974, 1975
 Leigh Hauf, 1972

Jack Hauf, 1972
 Karen Henkenhof, 1974
 Norman Howe, 1972
 Mary Hutchings, 1975
 Ralph Johnston, 1972
 Jack Kapac, 1974, 1975
 Fridrik Kristjansson, 1972, 1973
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 Lindsey Reid, 1973
 Dale Williams, 1975

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 Ms. Dana Mae Grainger
 Mr. Sid Kroker
 Mr. Brian Lenius
 Ms. Ada Tuck
 Ms. Pam Goshorn
 Mrs. Catherine Pokotylo
 Ms. Mary Hutchings
 Ms. Diane Haglund

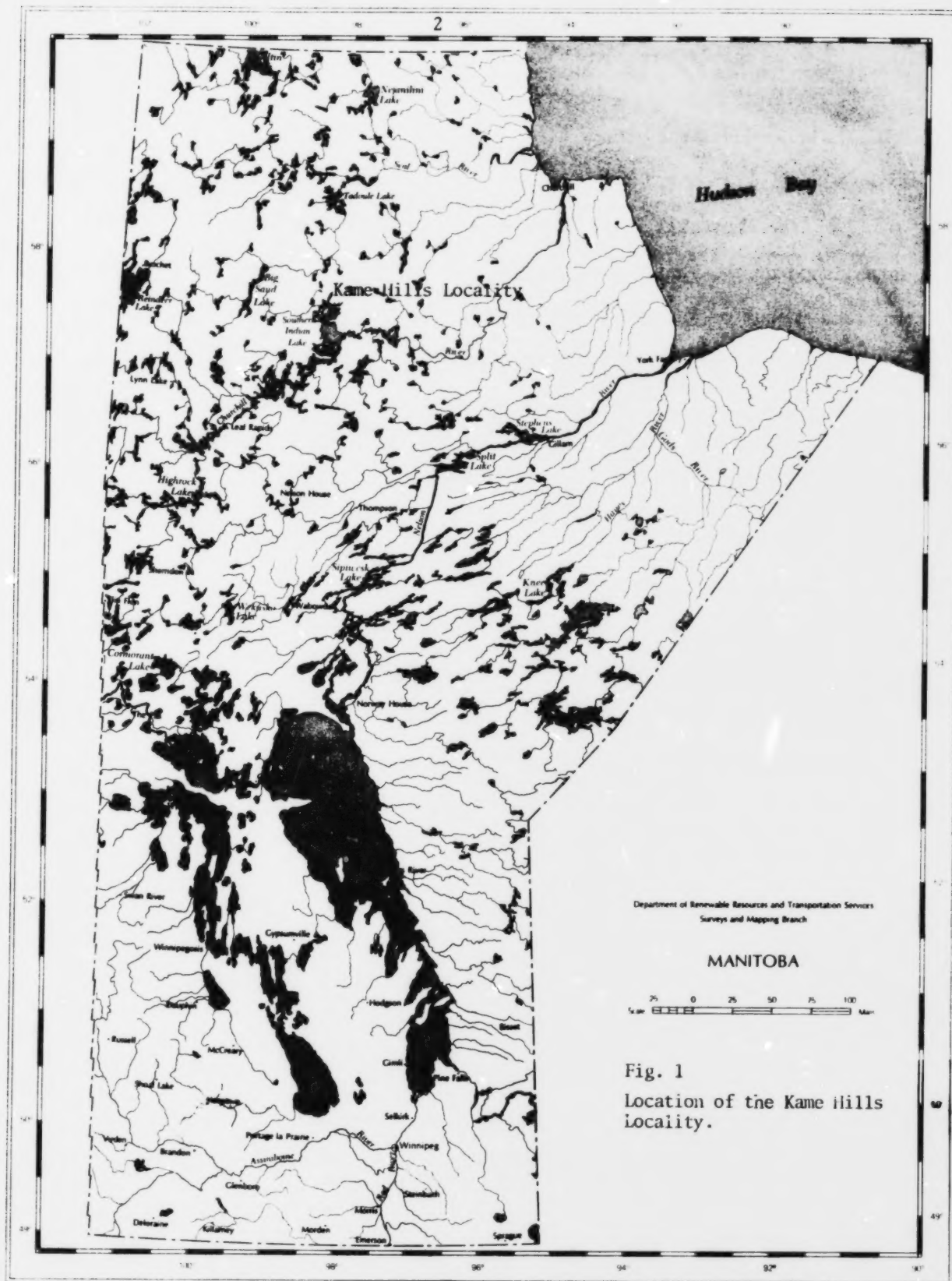
I

INTRODUCTION

The Churchill Diversion Archaeological Project (C.D.A.P.) was established by the Manitoba Archaeological Society in conjunction with the Manitoba Museum of Man and Nature and the Departments of Anthropology at the Universities of Manitoba and Winnipeg to conduct an archaeological salvage program on the Churchill River in northern Manitoba. The project was initiated because Manitoba Hydro proposed to raise the level of Southern Indian Lake and to divert some of the flow from the Churchill River via the Rat and Burntwood Rivers to the Nelson River where it could be used to generate additional hydroelectric power.

C.D.A.P. set out to discover, recover and record archaeological remains in the proposed reservoir. Between 1969 and 1971, 177 sites were recorded (Dickson 1972) and some limited test excavations were conducted. Most of the sites were small with a thin veneer of cultural remains along the beach, but in 1971 several large sites with dense concentrations of cultural remains were located in the Kame Hills Locality of Southern Indian Lake (Fig. 1).

From 1972 until 1975 research was conducted in the locality. The major excavations at the Kame Hills Site have been reported (Dickson 1975, 1980), but various other studies have never been completely documented. The objectives of this report are to define the locality, to describe the sites, to review the research strategy and to present an analysis of the cultural remains recovered from these other sites.



II

THE KAME HILLS LOCALITY

The Kame Hills Locality is located in the northwestern portion of Southern Indian Lake near where the Muskvesi River discharges (Fig. 1). A long narrow bay extends northwest from the main body of the lake to the river mouth. Several small islands are situated in the bay. In 1971 an archaeological survey in this area uncovered several sites along the shore and on two islands at the eastern end of the bay. Additional sites were discovered the following year. However, despite intensive survey of most of the shoreline south and northeast of the locality no sites were located within several kilometers. Sites were recorded along the Muskvesi River and on Moss Lake (Dickson 1972:137-146; Wright 1968: Fig. 1), but the nearest sites were approximately 14 kilometers north.

Two additional factors related the sites. First, most of them were quite extensive. There had been numerous forest fires in the locality in recent years which had exposed large areas of the ground surface. Cultural remains, which normally lay beneath the dense boreal vegetation, were disclosed and were sprawled over large areas. When these sites were recorded, they were the largest sites located on Southern Indian Lake, but additional research in the Sandhill Bay Locality revealed similar sites (Kelly 1975, 1982).

Second, the geography of the locality is distinctive. An esker and kame complex is located in the southwestern portion of the locality and other glacial deposits are present in the northwest. Most of the shoreline in the locality consists of wide sand beaches backed by low, broad terraces and high eskers or kames. There are very few rock outcrops or clay beaches.

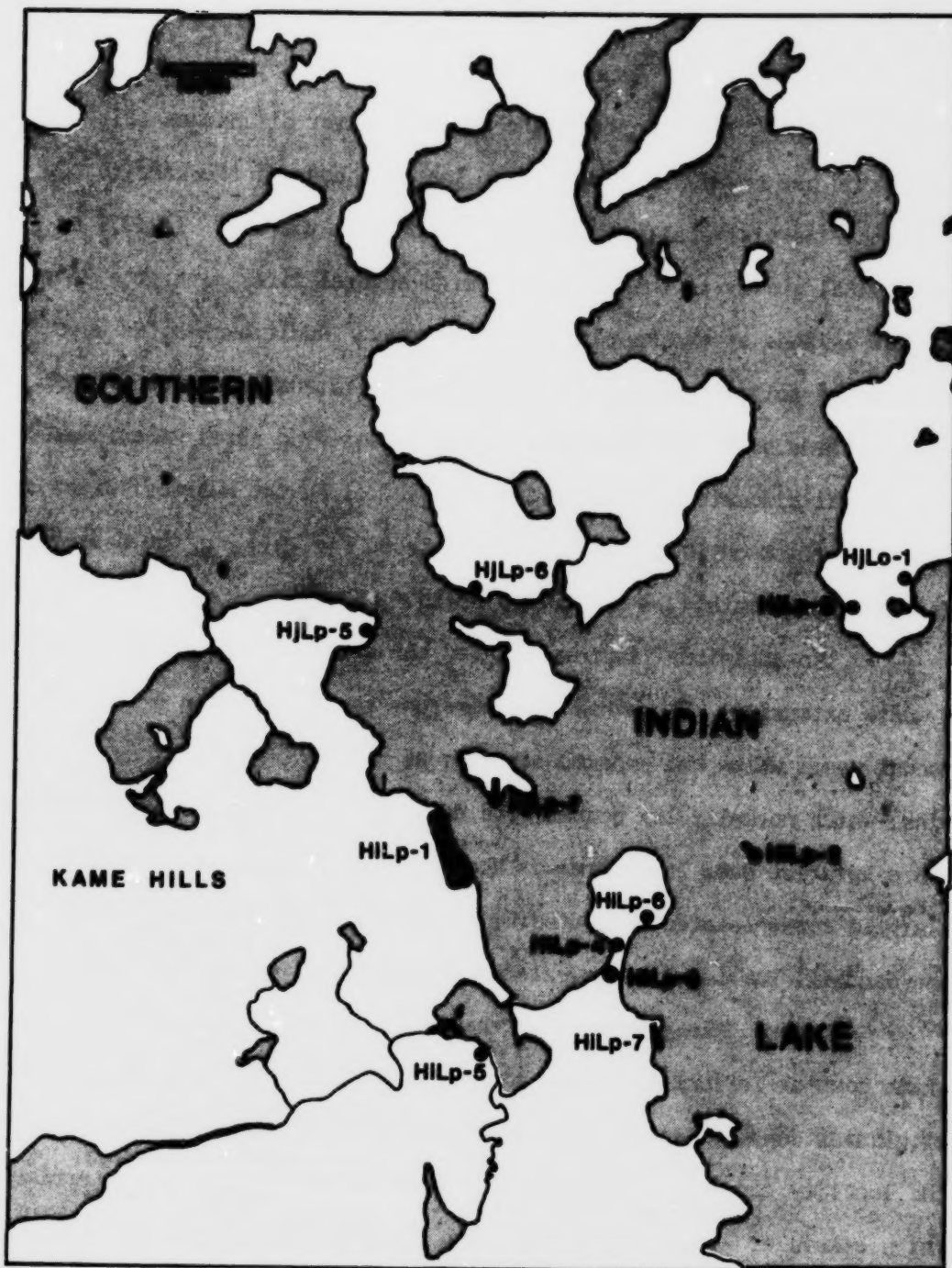


Fig. 2 The Kame Hills Locality.

Clay deposits are usually located beneath the sand deposits, but in some locations the clay rises to the surface.

An open coniferous forest which is dominated by Picea mariana (black spruce) or Pinus banksiana (jackpine) is usually present on the terrace and the slopes. Ledum groenlandicum (labrador tea), Juniperus communis (juniper) and Arctostaphylos uvaursi (bearberry) are typical of the forest floor. Some Populus tremuloides (trembling aspen) and Betula papyrifera (white birch) are located on the edge of the terrace. Many of the beaches have scattered Salix sp. (willows) and Carex sp. (sedges).

Low alluvial shorelines predominate along the Muskwezi River and floating fens, offshore marshes and lowlying sandy shorelines occur near Moss Lake (Penner 1974:226). To the northeast and the south there are numerous bedrock outcrops and less coarse sediments except for an esker-kame complex which stretches from Waddie Lake in the northeast corner of Southern Indian Lake, along Sand Point on the east shore, to Sand Island and into the Kame Hills. However, in the eastern half of this region the wide sand beaches are backed by steep sand ridges rather than low, level terraces. Therefore, the Kame Hills Locality, which is shown in Figure 2, is unique. The close proximity of the sites and the similarity among them makes this an ideal research locality.

The Sites

Twelve sites were recorded in the Kame Hills Locality (Fig. 2) including the Kame Hills Site (HiLp-1) which was the largest and the most intensively investigated (Dickson 1980). The others were situated on two islands and the mainshore within 4.5 kilometers.

The Kame Hills Site (HiLp-1 or SIL 54)

The Kame Hills site is situated on the northwestern shore of Southern Indian Lake at Latitude 57° 29' 45" N, Longitude 98° 33' 45" W (Dickson 1980). Cultural remains were collected on the terraces and kames behind a 20 meter wide sand beach. The primary terrace which is approximately a half a meter above the beach is 320 meters long and varies from ten to 40 meters in width. The secondary terrace which is ten to 30 meters wide rises another three-quarters of a meter above this terrace and extends for a distance of 160 meters on the north half of the site. An esker bounds the south end of the site and a kame delimits the north end. The top of the esker is more than 35 meters above the normal lake level. The north kame is 13 meters high. Between the two are several kames which are connected by low ridges and intersected by steep-walled ravines. The lowest point is about the normal lake level. The cultural remains were scattered across the terraces, over the first set of kames, into the ravines and almost to the top of the esker.

The original boreal vegetation across the entire site was destroyed by a forest fire in the early to mid-1960's. Ten years later when the site was excavated young jackpine were just beginning to dominate the site. Fireweed (Epilobium augustifolium), blue berries (Vaccinium myrtilloidea), raspberries (Rubus idaeus), trembling aspen and labrador tea were distributed across the terraces and on the sides of the kames. The beach was bordered by clumps of willow behind which was a band of sedges.

The cultural remains excavated from the site were assigned to the Shield Archaic Tradition, the Arctic Small Tool Tradition, the Pelican

Lake Complex, the Taltheilei Tradition, the Laurel Tradition, the Kame Hills Complex and the Historic Period (Dickson 1980). More than 20,000 specimens were collected.

Dancing Island Site (HiLp-2 or SIL 125)

Dance Island is a very small island which is located at the head of the bay. In 1969 when the site was recorded it extended two to three meters out of the water. However, that was in a low water year and by 1975 when the lake was approximately one meter above the normal level and rising, the island was almost completely inundated. The following year Manitoba Hydro put the Churchill River Diversion into full operation and the site disappeared forever.

Dancing Island was named by the local inhabitants who reported that "old religious ceremonies" were practised there in the past. Archaeologically, a large circle approximately 120 paces in circumference was visible on the southeast end of the island. A two-by-four meter widening of the path was located on the north edge of the circle and nearby was a one-half-by-one-half meter excavation. Two additional excavations, one-by-one meter and one-quarter-by-one-quarter meters were located on the southeast edge of the circle. A large boulder was positioned on the east edge just off the footpath. A small oval was visible on the northwest end of the island. No cultural remains were surface collected at the site and excavations were not undertaken. Therefore, the site is not included in the following discussion.

The Isthmus Site (HiLp-3 or SIL 51)

The Isthmus Site is located just southwest of Dance Island and approximately one and a half kilometers southeast of the Kame Hills Site at Latitude 57° 29' 12" N, Longitude 98° 32' 5" W. It is situated on a low narrow sand bar that connects the mainshore with a high irregularly-shaped land mass. The bar is an average of 75 meters wide. The structure is a tombolo or an island which has been connected to the mainland by a sand bar. There are wide sand beaches on either side with an abrupt embankment at the back. Cultural remains were collected between the embankments on the slightly rolling terrace which consists of a series of strand lines paralleling the present beaches. The embankments are approximately one and a half meters above the beaches, but the interior terrace is only about one meter above the normal lake level.

The south end of the site is bounded by a small marsh and the north end trails off into low swampy land. Cultural remains were not recovered from either beach.

Both beaches have a fringe of willow and sedge. On the east side the willow border is quite wide and it was inundated even at normal water levels. The vegetation on the site was destroyed by a forest fire in the late 1960s and in 1972 when the site was excavated there was minimal regrowth. Instead there was a tangle of deadfall, abundant fireweed, raspberries and a few small trembling aspen. The unburnt area on the north edge of the site consisted of jackpine, black spruce, trembling aspen and some white birch with labrador tea and sedge on the forest floor.

HiLp-4 (SIL 53)

HiLp-4 was located approximately 100 meters north of the Isthmus Site at the base of the large irregular land mass. A recent camp was located in a small clearing approximately 60 meters from the lakeshore. During the examination of this camp, a ceramic plate was encountered beneath the moss. When the moss was trowelled away, most of a Clearwater Lake Punctate plate was revealed (Plate 7). Later the area was expanded and portions of two additional vessels were recovered. No historic remains were collected although fire pits and recent tree cuttings were noted.

Poplar and birch are the predominant trees on the site, but black spruce and jackpine are prevalent in the surrounding area. The sub-soil is sand underlain with clay. Excavations were not conducted at the site.

HiLp-5 (SIL 55)

HiLp-5 is situated on the south bank of an unnamed creek where it widens just before discharging into Southern Indian Lake. The creek drains several small lakes in the kames which stretch westward from this point. The Kame Hills and Isthmus sites are located approximately one kilometer north and northeast, respectively.

In 1972 a forest fire burned through this area and examination of the shore after the fire yielded a small collection of ceramics and a few lithics on a gentle slope just above the water. By 1974 this location was under water and no cultural remains were located on the surface of the small rise behind the beach.

The subsurface at this site consisted of a thin veneer of sand over clay on the beach and primarily clay on the grade. Vegetation prior to the fire was the usual dominant spruce forest.

The Blueberry Site (Hilp-6 or SIL 320)

The Blueberry Site is situated on the east side of the large irregular landmass north of the Isthmus Site. The site extends from a narrow level area near the lakeshore, up a 25° - 30° slope to level ground. A one-by-two meter sand beach is sandwiched between swampy ground and a rock outcrop. A thick fringe of willow extends along the shore, but the black spruce forest which formerly flourished on the slope and terrace was consumed by a forest fire several years before the site was recorded. Only deadfall and successional growth remain.

Two concentrations of ceramics were collected from the site. The first occupied a three-by-four meter area on the center of the slope and the second was located about ten meters from the first on the high level ground. The latter was approximately eight meters above the normal lake level. Subsoil at this site is clay.

Hilp-7 (SIL 322)

Hilp-7 is located on the west shore of Southern Indian Lake approximately three-quarters of a kilometer south of the Isthmus Site. A narrow sand and cobble beach stretches along the shore. Behind the beach there is a steep grade which rises roughly ten meters above the normal lake level before it crests. At the south end the grade gives way to a muskeg-

marsh area and at the north end it descends to the lake. Several ceramic concentrations were recorded along this 300 meter stretch up to 50 meters from the water's edge. However, the material was superficial and only three vessels were defined.

The slope area was burnt, but the marsh and the top of the grade exhibited an unburnt black spruce forest. Willow thrived along the lake-shore. The subsurface was a "pebbly" clay.

HjLp-5 (SIL 321)

HjLp-5 is situated on a point approximately one kilometer northwest of the Kame Hills Site where two abandoned cabins stood. In 1971 a few severely waterworn lithic artifacts were collected from a 120-by-5 meter sand and cobble beach which was overgrown with willow and sedge. The cabins were located on a large cleared area three meters above the lake. However, other than scattered pieces of recent garbage no cultural remains were recovered above the beach. In 1972 the beach was under water and no additional research was undertaken at the site.

HjLp-6 (SIL 52)

HjLp-6 is located near the north end fish camp approximately two kilometers north of the Kame Hills Site. It is another site which produced only a few artifacts in 1971 (Dickson 1972:139) and which was not reinvestigated in the subsequent years. Therefore, it is not considered further in this report.

The Raspberry Site (HjLp-7 or SIL 147)

The Raspberry Site is located on the southern point of one of the large islands in the Kame Hills Locality, directly opposite the Kame Hills Site, a distance of 400 meters. On the west side of the point near the center of the site the ground rises steeply from the water to a height of four meters. To the east of this hill the terrain is very hummocky, but remains at approximately the same elevation. The southward facing point is slightly higher and the surface in this direction is also hummocky. To the north the ground dips approximately one and a half meters and then ascends to a second hill about five meters above the lake. In this area the surface is relatively level.

At some point in the recent past a fish camp was located on the site. The remains of at least one structure were visible on the central hill and historic items were scattered from there to the north hill and down to the lakeshore. The camp was destroyed by a fire in the early 1960's. The fire also consumed most of the vegetation in the immediate vicinity although some of the site had been cleared previously.

Prehistoric cultural remains were collected on the south point, just east of the point in a small ravine, on the central hill and on the north hill. It is approximately 300 meters from the tip of the point to the north edge of the burn and the site does not necessarily end here. The mature black spruce forest was so thick that it was impossible to determine whether the cultural remains continued. Test pits 18 and 22 were excavated around the most northerly concentration of cultural remains and they were located within five meters of the unburnt forest.

Hence the site could be larger. The central area of the site, where the test pits were excavated, was roughly 1200 square meters.

In addition to the deadfall and surface litter, fireweed, grass and a thin layer of moss covered the surface. Beneath the moss there was a thin humus layer over the clay subsoil. No sand was noted.

HjLp-8 (SIL 323)

HjLp-8 is located on the west side near the south end of a large peninsula approximately four kilometers northeast of the Kame Hills Site at Latitude 57° 30' 50" N, Longitude 98° 30' 15" W. There is a long wide sand beach with a low open terrace behind. Rock outcrops terminate the beach at either end and a dense black spruce forest thrives around the clearing. Willow and sedge grow along the beach and scattered black spruce, trembling aspen and white birch occupy the terrace.

The remnant of a recent camp was located in the clearing, but no historic items were collected. Ceramics and a few lithics including a retouched flake were recovered when the site was recorded in 1971. When the site was revisited in subsequent years no cultural remains could be located and no additional research was undertaken.

HjLo-1 (SIL 148)

The final site recorded in the Kame Hills Locality is HjLo-1 which is located on the east side of the same large peninsula that HjLp-8 occupies. The former is situated slightly further north than the latter. There is a large, shallow, sheltered bay at this point with a long wide sand beach along the shore. The beach is interrupted occasionally by concentrations

of cobbles. Behind the beach there is a low, level sand terrace. Several small intermittent streams which drain the marshy interior of the peninsula crosscut the terrace and the beach. A black spruce forest dominates, but towards the edge of the terrace it gives way to scattered clumps of jackpine, trembling aspen and birch. Willow and sedge flourished on the beach.

The site was recorded in 1972 by Mr. David Riddle who felt that a site must be located there. However, no cultural remains were located on the beach and nothing was visible on the terrace. After continued probing through the moss mantle, a small concentration of cobbles was encountered. A quick excavation of the spot revealed a hearth and several ceramic sherds. Some of the ceramics were collected and the remainder of the hearth was left intact. The following summer the complete feature was excavated.

History of Investigation

Most of the sites in the Kame Hills Locality were recorded and surface collected in 1971. Fortunately, most cultural remains were left in situ at the Kame Hills, Isthmus and Raspberry Sites and as a result, a research strategy which took advantage of the visible artifacts, was formulated prior to the commencement of field work.

The research strategy was based upon regional and site investigation strategies proposed by Binford (1964) and Struever (1968). Binford (1964:438) argued that test pits and test trenches sampled only the formal properties of the site and defined problems of cultural and depositional history. They did not investigate the site as a whole. Instead, a three phase excavation strategy, such as Struever (1968:144-146) suggested, should be planned. Following a surface survey which is best done in a controlled

manner, test excavations are conducted to determine the depositional history of the site. Second, block excavations are carried out to expose large occupation areas and third, stripping excavations are employed if it is necessary to remove excessive overburden. With such a strategy, it is possible to determine the internal structure of successive cultural systems (Binford 1964:440).

However, the strategy was formulated for stratified, multi-component sites located in agricultural areas and not for thin unstratified sites covered with dense coniferous forest and a heavy mantle of moss. Therefore, in attempting to use the strategy some modification was necessary. Most of the changes were made as the work proceeded and problems were encountered, but other alterations were not apparent until analysis was undertaken.

The strategy was initiated at the Isthmus Site. When the site was recorded, some of the cultural remains exposed on the surface were collected, but many were simply marked and left in situ. The artifacts that were collected were pinpointed before they were removed. In addition, test pits were excavated around two separate concentrations of pottery. They indicated that cultural remains were not present beyond the moss layer and the upper two to three cm of sand. Therefore, the research strategy for the summer of 1972 was: 1) do a complete controlled surface collection on the site, 2) plot the distribution of the cultural remains recovered and delimit high density locales which are tentative activity areas, and 3) excavate test pits in the tentative activity areas to determine the extent of the cultural remains and the depositional history of the site.

A ten-by-ten meter grid was laid out on the site. Most of the deadfall was removed and the surface of each unit was examined for cultural

remains. Unfortunately, the forest fire had not consumed all of the moss and ground cover and the remaining litter concealed most of the cultural remains. Therefore, if anything was to be accomplished other than the collection of the remaining surface artifacts, the moss had to be removed. However, since the excavated test pits revealed that the cultural remains were located in the moss and the upper two to three cm of sand, the removal of the moss was in effect stripping excavations. In this case the overburden was deadfall, moss and assorted surface litter rather than soil.

The stripping excavations began with the removal of all the deadfall from the area (Plate 24b). Standing trees were left until the unit was excavated because they uprooted large areas of moss and sand when they were forced down. The surface of each unit was carefully examined and all specimens were noted and then collected. The moss was removed with rakes, shovels, and trowels (Plate 25a). Large clumps of moss were examined by hand and very little screening was attempted. After the moss was removed, the surface of the sand was raked to determine if any concentrations of cultural remains were present in the upper few centimeters of sand (Plate 25b). The surface of features was trowelled, but they were not excavated at this time. In 1973 the hearths that were still visible were excavated and the immediate area around them was examined. Very few cultural remains were recovered from the features at this time and nothing was encountered in the adjacent sand.

More than 4000 square meters was cleared by a ten-person crew in about six weeks in the stripping excavation (Plate 24a). At the time it appeared that almost all of the site had been excavated and it was not practical to expand the excavation until cultural remains were no longer encountered. However, a few years later Edward and Fred Moose of South Indian Lake

collected several ceramics vessels from an unexcavated portion of the site. The location was investigated and the moss was cleared from a four square meter area (18-22N/18-22E). Additional sherds and a few lithics were recovered. Therefore, the extent of the site has been expanded and if additional research had been conducted, the site may have been enlarged even further.

At the Kame Hills Site the research strategy was modified once again. Initial test excavations at the site indicated that cultural remains were located in the sand as well as in the moss. In addition, the site was much larger than the Isthmus Site and it was impractical to undertake stripping excavation. Therefore, in 1973 a stratified random block excavation was conducted (Dickson 1975:5-7), and in the following two years a large block excavation was opened (Dickson 1980). Two-by-two meter units were employed in these excavations and the sand was excavated to a sterile level. The results of this research have been discussed in the publications referenced.

Finally, test excavations were conducted at the Raspberry Site and at HJLo-1. Those at the former were undertaken to determine the condition of the cultural remains and the depositional history of the site. Therefore, all except one of the 22 one-by-one meter test pits excavated were established around cultural remains on the surface or adjacent to units where the artifacts or features extended outside the original unit. One unit was selected at random and cultural remains were not recovered from it. All of the test pits were encompassed in a 1200 square meter grid with a single datum point.

At HJLo-1 the strategy was to randomly sample the site area and thus, a two-by-two meter grid was established on the site. Sixty-three units

were included in the grid and a random sample of ten units (15.6%) was selected for excavation. However, only three units were excavated because the major effort was concentrated at the Kame Hills Site. Two of the units excavated were situated around the hearth which was discovered when the site was located. As a result, the feature was exposed and excavated. The third unit was only two meters north of these units, but it was almost sterile. Five flakes were recovered from it.

In the following chapters the faunal remains, features, ceramics, lithic remains and historic remains from HiLp-3 to 7, HjLp-7 and 8 and HjLo-1 are discussed. HiLp-2 (Dancing Island) is not included because no cultural remains were collected there. HjLp-5 and 6 are excluded because only a few lithic specimens were collected in 1971 (Dickson 1972) and no additional data was obtained in subsequent years. The Kame Hills Site (HiLp-1) is discussed frequently because most of the comparisons are made with it. However, it is not practical to repeat all of the data (Dickson 1980) here, but some tables include the figures from HiLp-1.

III

FAUNAL REMAINS

Faunal remains were recovered from four sites. At HiLp-5 a single unburnt mammal long bone fragment was collected; 50 bone fragments were excavated from a hearth at HjLo-1. The only useful comparative samples were obtained from HiLp-3 and HjLp-7. They were submitted to faunal analysts for identification. Whenever possible the identifications included taxonomic order, skeletal classification and location, condition, pathologies, anomalies, state of fusion and butchering marks where visible.

Ms. Linda Roberts of the University of Manitoba examined and reported on the sample from HiLp-3 and Ms. Gabriella Prager, formerly of the same institution, identified the HiLp-7 sample. Both analysts consulted the comparative faunal collection at the Manitoba Museum of Man and Nature in Winnipeg and received some assistance from Mr. Jack Dubois and Dr. George Lammers of that establishment. Later, Mr. Fridrik Kristjansson (n.d.) prepared a research paper on the faunal remains from HiLp-3. All of these sources were consulted in the preparation of this chapter; however, the author assumes full responsibility for the interpretation and any errors or omissions contained herein.

Analysis

The faunal remains identified at HiLp-3 and HjLp-7 are summarized in Table 1. The minimum number of individuals of each species identified at each site is given in brackets. Faunal remains associated with features are included in the table. The identifications are discussed in the

TABLE 1

Identification of Faunal Remains from HiLp-3 and HJLp-7

	HiLp-3		HjLp-7	
	f	%	f	%
Class Mammalia	434	22.6		
Large Mammalia	2	0.1	302	23.1
Medium-Large Mammalia	1067	55.5	132	10.1
Medium Mammalia	2	0.1	150	11.5
Small-Medium Mammalia	1	0.1	145	11.1
Small Mammalia	5	0.3	318	24.3
Order Artiodactyla	5	0.3	5	0.4
Family Cervidae	5	0.3	9	0.7
<u>Rangifer tarandus</u> (Caribou)	20	1.0	10	0.8
<u>Alces alces</u> (Moose)	5	0.3	-	-
Order Carnivora	-	-	-	-
Family Ursidae	-	-	-	-
<u>Ursus americanus</u> (Black bear)	2	0.1	-	-
Family Mustelidae	-	-	-	-
<u>Martes americana</u> (Marten)	-	-	1	0.1
Family Canidae	-	-	-	-
<u>Canis lupus</u> (Wolf)	-	-	1	0.1
Order Rodentia	6	0.3	-	-
Family Sciuridae	-	-	1	0.1
<u>Marmota monax</u> (Woodchuck)	-	-	1	0.1
Family Castoridae	-	-	-	-
<u>Castor canadensis</u> (Beaver)	2	0.1	27	2.1
Family Cricetidae	-	-	-	-
<u>Ondatra zibethica</u> (Muskrat)	-	-	1	0.1
Family Erethizontidae	-	-	-	-
<u>Erethizon dorsatum</u> (Porcupine)	-	-	2	0.2
Order Lagomorpha	2	0.1	-	-
Family Leporidae	-	-	-	-
<u>Lepus americanus</u> (Snowshoe Hare)	1	0.1	2	0.2
Class Total	1559	81.1	1108	84.6
Class Aves (Birds)	1	0.1	23	1.8
Large Aves	-	-	1	0.1
Medium-Large Aves	1	0.1	2	0.2
Medium Aves	3	0.2	5	0.4

TABLE 1 (cont.)

	HiLp-3		HjLp-7	
	f	%	f	%
Class Aves (continued)				
Order Anseriformes	-			
Family Anatidae	-		1	0.1
Order Galliformes				
Family Tetraonidae	-		2	0.2
<u>Canachites canadensis</u> (Spruce Grouse)	-		3	0.2
<u>Pedioecetes phasianellus</u> (Sharp-tailed Grouse)	1	0.1	-	
Order Passeriformes				
Family Turdidae (Songbird)	1	0.1	-	
Class Total	7	0.4	37	2.8
Class Osteichthyes (Fish)	316	16.4	144	11.0
Large Osteichthyes	-		4	0.3
Order Isospondyli	-		-	
Family Esocidae	-		-	
<u>Esox lucius</u> (Northern Pike)	3	0.2	15	1.2
Order Cypriniformes				
Family Catostomidae	27	1.4	-	
<u>Catostomus commersoni</u> (White sucker)	-		1	0.1
Class Total	346	18.0	164	12.5
Class Uncertain	10	0.5	-	
GRAND TOTAL	1922	100	1308	99.9

following pages and feature associations are noted. The features are discussed in the next chapter.

Most of the remains at each site were identified as mammal. At HiLp-3 22.6% of the remains were classified simply as mammalia; an additional 0.1% were assigned to each of large, medium and small-medium within the class; 0.3% were assigned to small and 55.5% were medium-large mammals. At HjLp-7 no faunal remains were identified to mammalia, but the size classes were represented as large (23.1%), medium-large (10.1%), medium (11.5%), small-medium (11.1%) and small (24.3%). The sub-totals for the two sites are similar, 78.7% at the former and 80.1% at the latter, but the relative frequencies differ markedly. Some of the discrepancy can be attributed to the condition of the faunal remains at each site and to differences in reporting techniques between two faunal analysts. However, it appears that medium-large mammals were more important at HiLp-3 than at HjLp-7. The remains at the latter site were more evenly balanced among the available resources.

Within the order Artiodactyla there is one family, Cervidae, and two species, Rangifer tarandus (caribou) and Alces alces (moose) identified at HiLp-3 and only the single family and the one species, caribou, represented at HjLp-7. The minimum number of individuals for each species at each site was one. The age could not be determined for the caribou or the moose from HiLp-3 but the caribou at HjLp-7 was an adult. The parts of the animals present differed at each of the sites. At HiLp-3 most of the bones were foot or distal portions of the radius and ulna except for one right scapula, a distal portion of the left humerus and the proximal end of the left radius.

At HJLp-7 the proximal end of the ulna and the radius were present and the distal portions were not. In addition, there was a vertebral fragment as well as a carpal and a tarsal fragment. At the Kame Hills Site (Hilp-1) the proximal portions of the radius, ulna, tibia and femurs were absent (Dickson 1980:33). Most of the remains were foot and distal leg bones although one mandible, a cranium fragment and two scapula fragments were recovered. Therefore, one pattern is represented at the Kame Hills and Isthmus sites and another pattern is represented at HJLp-7.

The moose remains recovered at Hilp-3 consisted of the distal half of the left humerus, the distal end of the left tibia, a metapodial and two proximal sesamoids. At the Kame Hills Site two mandibles, a portion of the humerus and several foot bones were recovered (Dickson 1980:34). Thus, the pattern observed with the caribou remains at these sites is the same as that for the moose remains.

A metapodial and a right scapula from a black bear (Ursus americanus) were recovered at Hilp-3. No bear remains were collected at HJLp-7 but at least one and possibly two individuals were identified at the Kame Hills Site (Dickson 1980:34). The age of this individual could not be determined (Kristjansson n.d.).

At HJLp-7 only two carnivores were identified, a marten (Martes americana) and a wolf (Canis lupus). The distal end of the right radius of an adult marten was located in Test Pit 16 Level 1 and the first thoracic vertebra of a wolf was found on the Surface in Test Pit 13. Both probably relate to the Historic occupation at the site. One marten was identified from a Terminal Woodland feature at the Kame Hills Site (Dickson 1980).

At HiLp-3 six bone fragments were identified as Rodentia and two were identified as Castor canadensis (beaver). The latter were both fragments of a left femur. The individual was less than four years old (Kristjansson n.d.).

At HjLp-7 one bone fragment was identified to the family Sciuridae and one to the species Marmota monax (woodchuck). The former was located in F2-75 in Test Pits 7, 9, 15 and 16. The latter was found in Test Pit 15 Level 1. The two fragments were probably derived from the same juvenile individual.

There were several beaver bone fragments recovered at HjLp-7, but they could all be attributed to two individuals, an adult and a juvenile. Most of the remains were located in Test Pits 15 and 16 Level 1 as well as in the hearth, F2-75, which was partially situated in these units. Three bone fragments were collected nine meters west in Test Pit 13 Level 1.

HjLp-7 also yielded one muskrat (Ondatra zibethica) and two porcupine (Erethizon dorsatum) remains. The former was a left mandible fragment located in Test Pit 5 Level 1. Age was not determined. The latter remains were tibia fragments collected in Test Pit 15 Level 1. The one individual was a juvenile.

The only other mammal remains recovered at the two sites were from the order Lagomorpha. At HiLp-3 two bone fragments were identified to the order and one was identified as Lepus americanus (snowshoe hare). At HjLp-7 two bone fragments were identified as snowshoe hare. Only one individual was represented at each site. Their ages were not determined. The remains at the former site were located on the Surface in 0-10S/20-30W. At the latter site they were found in both Level 1 and 2 in Test Pit 16.

Avian (bird) remains were recovered at both sites, but in very low frequencies. At HiLp-3 one bone fragment was assigned to the class Aves, one was identified as a medium-large bird and three were classified as medium bird. At HjLp-7 23 bone fragments were identified as bird; one fragment was from a large bird; two were from medium-large birds and five were from medium birds.

The only bird species recognized at HiLp-3 was Pedioecetes phasianellus (sharp-tailed grouse) and it was identified from one right femur which was located in 50-60S/0-10E on the Surface. A right numerus from a member of the songbird family (Turdidae) was collected from the Surface in 30-40S/20-30E.

At HjLp-7 a duck (Anatidae) was identified from a portion of a vertebra located in Test Pit 15 Level 1. A spruce grouse (Canachites canadensis) was represented by three bone fragments recovered from the hearth, F2-75, in Test Pits 7, 9, 15 and 16 Level 2. The same feature yielded two additional bone fragments which could only be identified to the family Tetraonidae, but which probably were from the same individual.

Birds were not very important in the faunal remains recovered from the Kame Hills Site (Dickson 1980). The only species identified was mallard duck (Anas platyrhynchos). In addition, a swan (Cygninae), a goose (Anserinae), a hawk (Accipitridae) and a crow (Corvidae) were identified. All, except the crow, were assigned to the Historic component at the site (Dickson 1980).

Fish (Osteichthyes) were more prominent than birds at the three sites in the Kame Hills Locality, but only at HiLp-3, where 18% of the faunal remains were attributed to fish, was there a large representation. Most of these remains, 91.3%, were only identified to the class. Three

fragments, assignable to one individual, were identified as Esox lucius (Northern Pike) and 27 fragments from at least four individuals (Kristjansson n.d.) were from the sucker family (Catostomidae).

Longnose sucker (Catostomus catostomus) and white sucker (Catostomus commersoni) have been identified in Southern Indian Lake (Ayles and Koshinsky 1974:15).

The pike remains from HiLp-3 were collected from the Surface of 20-30S/0-10W and 40-50S/0-10E. One sucker was associated with features 1-73 and 9-73 in 15-30S/15-30E Level 1 and 2. Three were located in 20-30S/0-10W Level 1 although part of one individual or possibly a fifth individual was located on the surface of 30-40S/10-20E.

At HjLp-7 87.8% of the fish remains were identified to the class only, four fragments were identified as large fish, 15 fragments were classified as northern pike and one fragment was assigned to white sucker. The pike remains were from one individual and were all located in Test Pit 16 Level 1 and in F2-75 which was in Test Pits 7, 9, 15 and 16 Level 2. The single white sucker was recovered from Test Pit 15 Level 1.

At the Kame Hills Site at least ten northern pike, two lake whitefish (Coregonus clupeaformis), one walleye (Stizostedion vitreum) and five suckers were identified (Dickson 1980:39). Most of the fish remains were identified only to the class.

In brief, HiLp-3 and HjLp-7 compare favourably to each other and to HiLp-1. Since the vast majority of the faunal remains from each of the sites are identified to the most general levels such as class and small to large within the class, the greatest discrepancies occur in these areas and unfortunately, they do not provide very much information. Fires and

subsequent fragmentation of the faunal remains probably skewed the results as much or more than did cultural preferences, seasonal differences or the mixture of components.

All of the major food sources are represented at one or more of the sites. Moose is absent at HjLp-7; muskrat and porcupine are missing at HiLp-3, but these samples are small and incomplete. Fish which were expected to be very important at lakeshore sites were not prominent. At HiLp-3 fish remains accounted for 18% of the total faunal sample, but at HjLp-7 and HiLp-3 the totals fell to 12.5% and 2.5%, respectively. Therefore, fish were less important at HiLp-1 than at the other sites.

Bird remains were not notable at any of the sites. Only a few of the available species were represented and there was never more than a single individual identified at any of the sites. At HiLp-1 almost all of the bird remains were attributed to Historic occupation of the site (Dickson 1980:37), but at HjLp-7 some bird remains were associated with a prehistoric feature. The Avian remains at HiLp-3 appeared to be recent.

Bone Tools

The only bone tool identified at the sites was a bone flesher from HiLp-3. It was located in 20-30N/20-30W in Level 1 beneath approximately two cm of moss on the top of the sand. The other recoveries from the 10-by-10 meter unit were a right scapula from a black bear, a small charred and calcined bone fragment from a medium-large mammal and a fractured quartz cobble.

The flesher (Fig. 3, Plate 23G) was manufactured from the left tibia of the caribou. Only the mid-shaft is present although the specimen

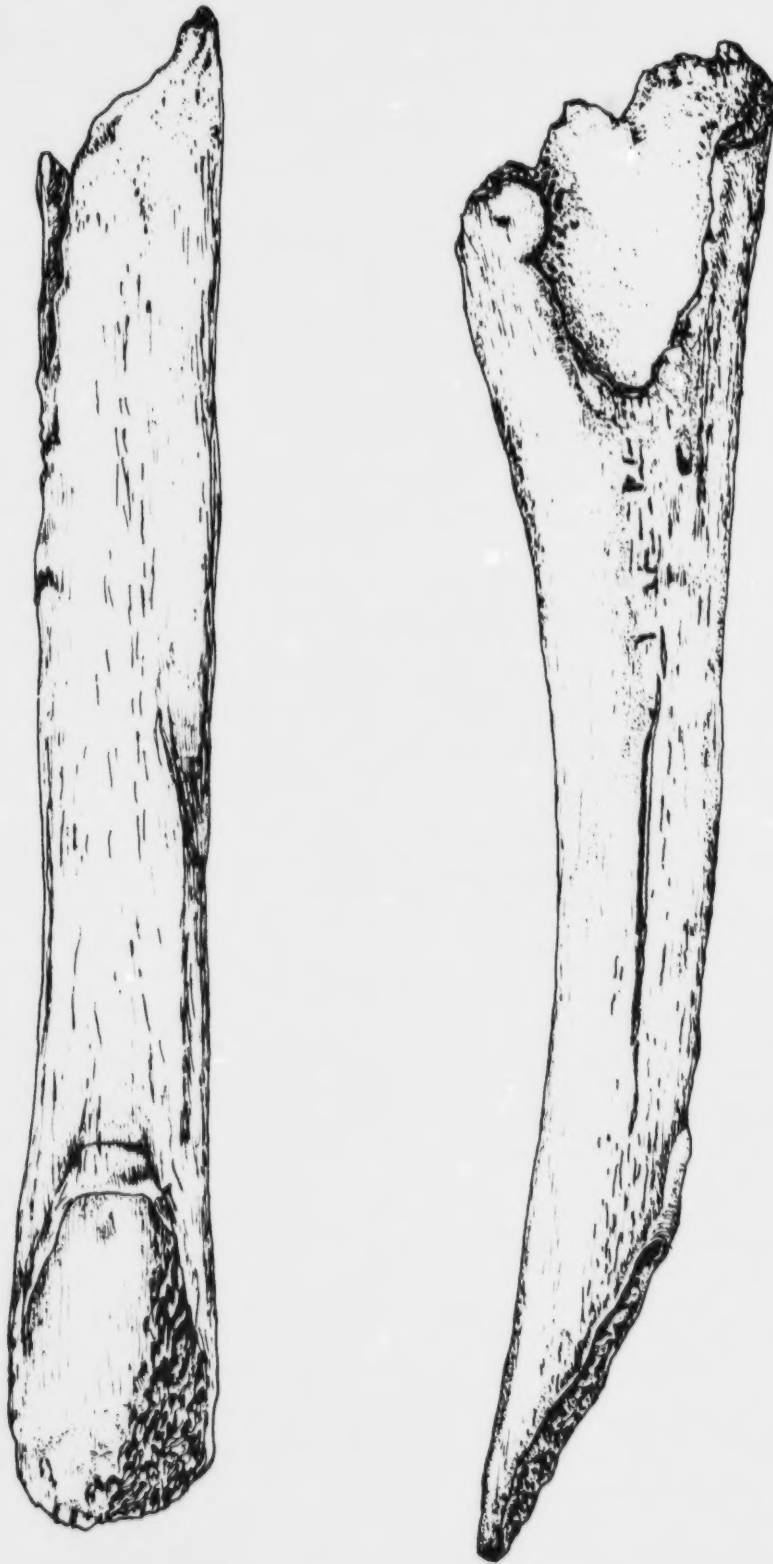


FIGURE 3 Caribou Tibia Flesher from Hilp-3.

is probably incomplete. The proximal end of the tibia is fragmented and it is uncertain if it was removed in making the tool or broken later. The left lateral side is hacked near the proximal end removing the medial ridge to facilitate a binding which most likely covered the proximal end. The overall length of the specimen is 225 mm. The straight bevel begins 65.5 mm from the working edge and forms an angle of 18° with the ventral surface. The width of the working edge is 28 mm and the working edge length, that is, the maximum distance perpendicular between the working edge and the chord of the working edge, is nine mm. The edge is weathered, but some shallow notches are visible.

The flesher was located outside the limits of the prehistoric site as defined by the distribution of ceramics (Dickson 1973) and it is in good condition. Therefore, it may be Historic. However, this interpretation is based more on feeling than on fact.

IV

FEATURES

Features were recorded at three sites. One hearth was excavated at Hjl0-1, four hearths were removed at HjlP-7 and nine hearths were uncovered at Hilp-3. During the excavations at the Isthmus Site ceramic and lithic concentrations were labeled as features, but in the analysis and in this manuscript they are defined as activity areas or parts thereof and only the hearths are classified as features (Fig. 4).

All of the features from the three sites are Type 1 hearths (Dickson 1980: 23), which are diffuse areas of ash, discoloured sand and humus containing fragments of burnt bone, some charcoal and a few cobbles. At HjlP-7 the matrix is clay rather than sand. At all the sites the hearths are located immediately beneath the moss in Level 2. Most are oval with a shallow basin-shaped profile. Cultural remains, primarily ceramics, are located within or in close proximity to the hearths (see Appendix I).

During the 1972 stripping excavations at Hilp-3 the moss was removed from the surface, eight discoloured (hearth) areas were defined, maps were drafted and the exposed cultural remains were collected. In 1973 only seven hearths were excavated as F8-73 and F9-73 could not be located, but a new hearth, F3-73, was defined and excavated. It was discovered where a pottery concentration was recorded the previous year. The discolouration was not evident until rain had washed the area and new vegetation had sprouted. Additional hearths may have been overlooked because they were not clearly defined.

In 1972 when the moss was first removed from the northwest corner of 15-30S/15-30E, two hearths, F1-73 and F9-73, were visible. F1-73 was

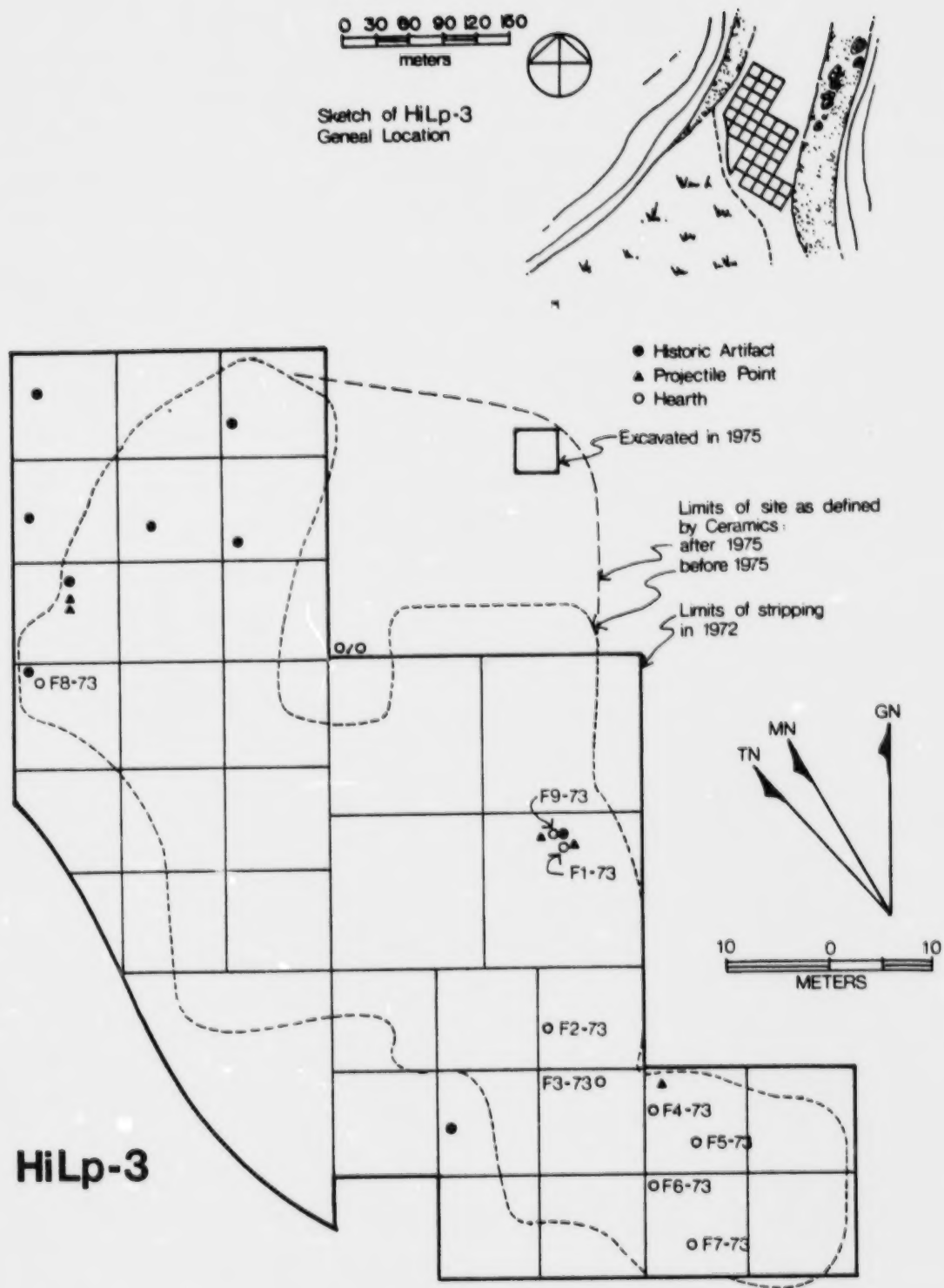


FIGURE 4 Excavated area at HiLp-3.

larger and was located half a meter east of F9-73. The next summer only one hearth was visible and it appeared to be the larger hearth although it could have been either or a combination of the two. In any case, it was excavated and a few pot sherds, 12 flakes, six cobble fragments and three burnt fragments of medium-large mammal bone were recovered. Earlier, 43 mammal, 281 medium-large mammal, one small-medium mammal, 94 fish and six sucker bone fragments were collected in the area. In addition, sherds from one Alexander Fabric-impressed pot (#10), eight Clearwater Lake Punctate vessels (#8, 11 to 17), two projectile points (#2156 and 2157), three scrapers (#14, 997 and 998), one retouched flake (#999), one utilized flake (#1220), lithic debris and one flat piece of brass were recovered from the moss and surface of the sand above and around the features. The brass is Historic and the ceramics are associated with the Kame Hills Complex. One projectile point is a late Middle Taltheilei style and the other is associated with the Terminal Woodland Tradition. Therefore, the features are assigned to the Kame Hills Complex within the Terminal Woodland Tradition because ceramics were recovered from the excavated hearth and from the surface of both features.

Cultural remains were not excavated from F2-73. Fire-cracked rock was abundant in and around the hearth, but artifacts were not. Even the flecks of burnt bone associated with the indistinct stained area were too small to collect. However, sherds from five Clearwater Lake Punctate vessels (#19, 21, 22, 25 and 34), a biface (#2625), a retouched flake (#2632) and lithic debris were located nearby. The ceramics are assigned to the Kame Hills Complex, but the tools are not classified. Vessel 25 is associated with three other hearths, F5-73, F6-73 and F7-73, which are located south of this feature. Therefore, the hearth is included in the Kame Hills Complex.

F3-73 was discovered in 40-50S/20-30 E. One small rim sherd from a Clearwater Lake Punctate cup (#24) was the only recovery from the hearth. However, additional sherds from this vessel as well as sherds from two other Clearwater Lake Punctate vessels (#23 and 33) and some lithic debris were collected in the locale before the hearth was defined. Hence, this is classified as a Kame Hills Complex feature.

F4-73 yielded five body sherds, one quartz flake, two burnt fish bone fragments and 38 pieces of daub. Sherds from an Alexander Fabric-impressed cup were collected from the top of the hearth and a Shield Archaic projectile point (#2814) was recovered 2.5 meters north. F5-73 was located four meters southeast. A small rim sherd from a Clearwater Lake Punctate pot (#26) was found in it. Additional sherds from this vessel and sherds from two other Clearwater Lake Punctate vessels (#25 and 28), a scraper (#80) and lithic debris were also associated with the hearth. Seven tiny bone fragments from the feature were not identified. Both features are attributed to the Kame Hills Complex.

Cultural remains were not recovered from F6-73 when it was excavated, but sherds from three Clearwater Lake Punctate vessels (#25, 28 and 31), one Alexander Fabric-impressed plate (#29), 11 pieces of daub and some lithic debris were collected from the hearth earlier. Four burnt bone fragments were identified as mammal (two), medium-large mammal and fish. F5-73 was located five meters northeast and F7-73 was situated six meters southeast. Vessels 25 and 28 were associated with all three features and Vessels 29 and 31 were present in F6-73 and F7-73. These two features have the same associations. Flecks of burnt bone were noted in F7-73, but they were not recovered in the screens. Both features are assigned to the Kame Hills Complex.

Finally, F8-73 was isolated from the other features in 0-10S/20-30W. It was not visible in 1973 because all of the burnt bone fragments were removed the previous year. They were identified as mammal (85), medium-large mammal (49), medium mammal (one), Artiodactyla (one), fish (two) and class uncertain (two). Sherds from a Clearwater Lake Punctate pot (#5), a biface (#713), an end scraper (#227), a retouched flake (#176), a utilized flake (#714), lithic debris and two fragments of an Historic period pipe bowl were collected in the area. The pipe fragments were located on the surface of the moss, but most of the other cultural remains were found in and beneath the moss. Several flakes and lithic tools including a Shield Archaic point and an unclassified point fragment were located in the vicinity. Two additional Clearwater Lake Punctate vessels (#1 and 6) were within 15 meters of the hearth. The feature is included in the Kame Hills Complex.

At HJlp-7 all four hearths were excavated although only about one-third of F4-75 was removed. The remainder of the feature was in the unexcavated area west and north of Test Pits 15 and 16. This area was not excavated because time was limited. Furthermore, the test excavations indicated that recent occupation of the site had greatly disturbed the prehistoric component. Therefore, additional investigation was not warranted; the open test pits were completed and block excavations were resumed at the Kame Hills Site (Dickson 1980).

F1-75 was an unusual feature. It was located in Test Pits 8, 10 and 21 in a shallow depression approximately one meter in diameter. The base of the depression was covered with a thin layer of moss. The hearth was superimposed on the moss and three to four cm of clay were deposited on top of the hearth. In cross-section the feature was lenticular. One body sherd and 65 burnt fish bone fragments were recovered from the hearth. Additional sherds from a

Clearwater Lake Punctate pot (#19) and a few flakes were excavated from the test pits. A bottle cap and two pieces of aluminum foil were collected from the surface and from the upper moss layer. The feature is most likely Historic because the moss layer beneath it is still distinguishable. The recent artifacts were on the top and the sherd was in the feature, but the sherd could have been redeposited when the clay was placed over the hearth.

F2-75 was located in Test Pits 7, 9, 15 and 16 immediately beneath a thin layer of moss, fireweed and sedge. Two rim sherds, a body sherd, several sherdlets and burnt bone fragments were recovered from the hearth. The faunal remains were identified as three mammal, 14 medium-large mammal, 38 medium mammal, 35 small mammal, one squirrel, three beaver, 17 birds, one medium bird, two song bird, three spruce grouse, 26 fish and one large fish fragments. F4-75 was located just west of this feature on the west edge of Test Pits 15 and 16. A retouched flake (#699-700), several pot sherds and burnt bone fragments were excavated from this hearth. The bone was identified as 14 large mammal, one medium-large mammal, 28 medium mammal, 16 small-medium mammal, 76 small mammal, one deer, two beaver, 23 fish and nine northern pike fragments. In addition, numerous rim and body sherds were collected from the surface and from the edge of the features. The sherds were assigned to seven Clearwater Lake Punctate vessels (#1, 4, 11, 12, 13, 14 and 16). Several recent Historic items such as round nails, pieces of phonograph records, glass fragments, and tin can lids were also collected from these test pits. However, most were located above and beside the hearths. Therefore, F2-75 and F4-75 are classified as prehistoric features and associated with the Kame Hills Complex.

F3-75 was located in Test Pits 18 and 22 near the unburnt forest at the north end of the site. The hearth was difficult to define and very thin. Sherds from three small Clearwater Lake Punctate vessels, two cups (#17 and 21) and one bowl (#18), one retouched flake (#674) and a few unmodified flakes were recovered from the hearth. The tiny flecks of burnt bone in the feature were not collected. The feature is assigned to the Kame Hills Complex because of the ceramic associations.

At HjLo-1 a single hearth was recorded. When Mr. David Riddle located the site in 1972, he did not collect any cultural remains from the beach, but while investigating the backshore area, he encountered a rock beneath the moss. He excavated a small pit and encountered ash, humus, charcoal and discoloured sand. He recovered some burnt bone fragments, ceramics and lithic debris. In 1973 the site was tested and two units were excavated at this location. The complete feature was defined and removed. It was a large well defined hearth that was at least 11 cm deep. Only a few faunal remains were recovered and they were identified as one caribou, one northern pike, one snowshoe hare, one medium-large mammal and 46 unidentified fragments. Numerous sherds and a few flakes were excavated from the hearth. The sherds are attributed to four Clearwater Lake Punctate vessels (#1-4) and one Alexander Fabric-impressed plate (#5). No Historic remains or lithic tools were recovered. Therefore, the hearth is assigned to the Kame Hills Complex because of the ceramic association.

In summary, the only features recorded at these sites were Type 1 hearths. One hearth at HjLp-7 was unusual because it was capped with clay. It was classified as Historic and the other 13 hearths were assigned to the Kame Hills Complex. The latter were associated with Clearwater Lake

Punctate and Alexander Fabric-impressed ceramics, a few lithic tools and lithic debris. Most of the faunal remains from these features were identified as mammal or fish. The only bird remains were associated with F2-75 at HJLp-7 where 23 fragments (16%) were identified as bird (17), medium bird (one), song bird (two) and spruce grouse (three). Other species identified in the features were caribou, beaver, snowshoe hare, northern pike and sucker. The faunal recoveries from the Historic feature were fish remains.

At the Kame Hills Site 42 Type 1 hearths, three Type 2 hearths and two undefined hearths were recorded (Dickson 1980:23). The Type 1 hearths were classified as Historic (four), Kame Hills Complex (27), Taltheilei Tradition (one), Shield Archaic (one) and unassigned Prehistoric (nine). The Type 2 hearths were classified as Shield Archaic and the undefined hearths were Unassigned Prehistoric. The faunal remains associated with the Type 1 hearths were very similar to those associated with the above features except that there was more variety at HJLp-1. Most of the bird remains from the Kame Hills Site were associated with Historic features, but in this sample, the only bird remains are in a prehistoric feature.

CERAMICS

Ceramics were the most prominent artifact class at most sites in the Kame Hills Locality. They were not recovered at HlIp-2, an Historic Cree dance site, and at HJLp-5 and HJLp-6 where only lithics were collected.

All of the ceramics with the exception of three vessels at the Kame Hills Site were classified as Selkirk Ware (Dickson 1980:50). Within the ware two types were represented, Clearwater Lake Punctate and Alexander Fabric-impressed. The former dominated.

Clearwater Lake Punctate

Clearwater Lake Punctate vessels have a medium to coarse textured blocky (angular particles) paste which usually is laminated. Temper consists of coarse to pebble sized (Shepard 1968:118) angular fragments of granite, quartz, mica or sand (Plate 16A). Occasionally organic material is included. Granite temper predominates. It occurs in widely varying frequency and often is visible on the surface of the sherds. Color is highly variable. It ranges from light to dark brown to black with some grey-brown and reddish-brown. The core of the sherds are usually grey to black. Hardness is approximately 2.5 to 3 on the Mohs scale. The method of manufacture appears to have included both the paddle-and-anvil technique and fabrication in and around fabric molds. Small vessels are usually modelled from lumps of clay.

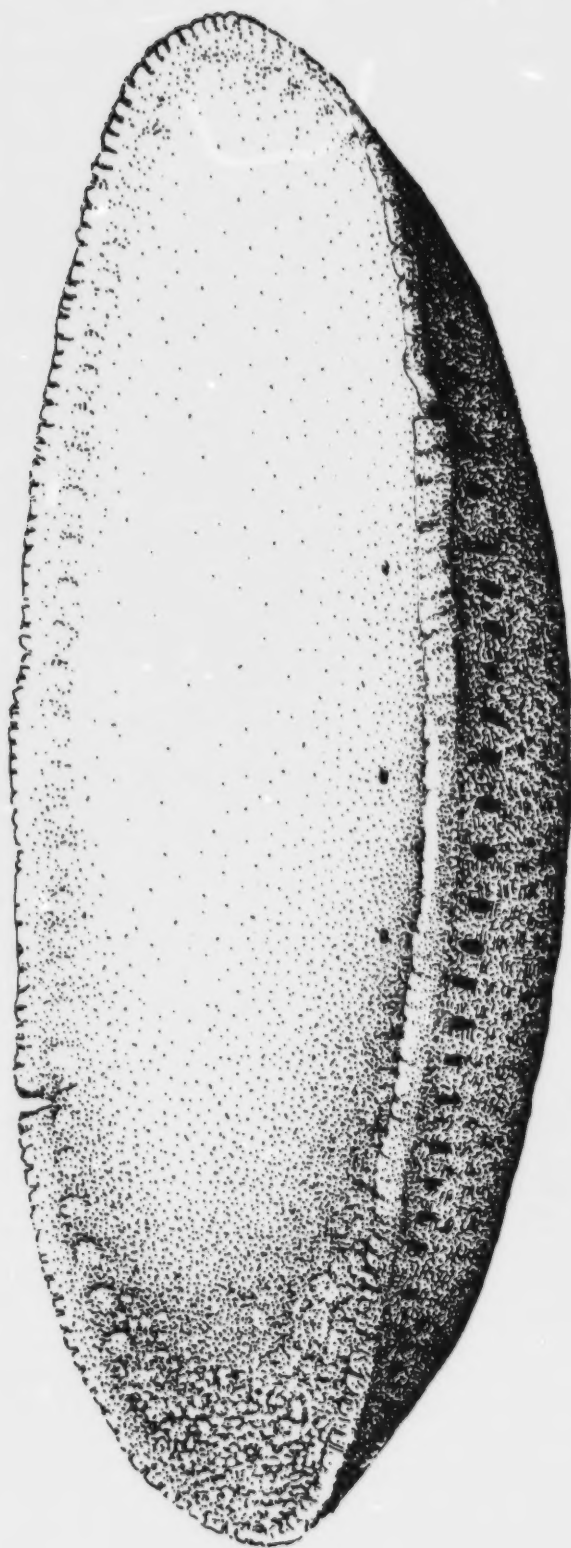
Exterior surface finish generally consists of smoothed fabric impressions (Plate 6). The degree of smoothing is variable (see below). Several types of fabric are used. MacNeish (1958:163) described three styles and Hlady (1971:28) described a ribbed fabric. In addition netting has also been recorded (Hanna 1975:78). A small minority of vessels have a smoothed

(plain) exterior surface (Plate 18A, 21A and B). The fabric impressions on the exterior often extend across the lip to the interior of the rim. The interior of the vessel is smoothed (Plate 19E and 20A), with fabric impressions on the interior of the rim from the exterior fabric being wrapped over the lip (Plate 20E) or is fabric-impressed (Plate 20B and C). The interior fabric impressions may differ from those on the exterior. Occasionally, there is a smoothed band between fabric impressions on the interior body and the fabric impressions on the interior rim. Smoothing of the interior fabric impressions is frequent and smoothed interiors generally illustrate parallel striations from scraping and/or brushing (Plate 7). Rarely, the smoothed interior surface is marked with tiny indentations and/or shallow punctates (Plate 8, 17C and 19H). Sometimes the interior surface is very irregular.

There are four vessel forms: pots, plates, and bowls and cups (Dickson 1980: 43). Pots are vessels with a slightly constricted surface (Plate 9). The height and the maximum diameter are about the same and the mouth diameter is at least half of the maximum diameter. Plates are shallow elliptical vessels (Plates 6, 7 and 8; Fig. 5). The depth is never greater than 25% of the maximum width. Vessels with greater depths are bowls. They are open mouthed vessels where the height is never greater than either the diameter (round oriface) or the maximum width (elliptical oriface). Cups (Plate 21) are open mouthed vessels where the height is greater than either the diameter or the maximum width. At the Kame Hills Site a specialized bowl form, a pipe bowl, was identified because there was reason to believe it may have functioned in such a fashion (Dickson 1980: 50). No similar specimens are known.

The constituents of form -- lip, rim, neck, shoulder, body and base -- vary widely (Plates 10, 11, 12, 13 and 15). For example, only pots

FIGURE 5 Artist's conception of Clearwater Lake Punctate plate
from Hilp-4, Vessel 1.



have necks and shoulders. An insloped lip on a pot may be horizontal on a plate. The body of a plate may also be the base (Fig. 6). Therefore, these attributes were not considered in this analysis.

A few reconstructed vessels indicate that there are several sizes of each type of vessel. Pots vary from one with a capacity of 0.7 litres (HiLp-3, Vessel 8; Fig. 7; Plate 9) to one with a capacity of 10.7 litres (HiLp-1, Vessel 39; Dickson 1980: 43). The maximum depth (inside), diameter (inside) and oriface diameter (inside), respectively, for the above vessels were 9.9-by-11.6-by-10.6 cm and 24.2-by-30.0-by-21.8 cm. Plates have a maximum length, width and depth (inside), respectively, of 13.2-by-7.2-by-1.3 cm (HiLp-1, Vessel 50) to 25.6-by-18.6-by-2.2 cm (SIL 184/339). Bowls are probably similar in size to plates but with the added depth. A bowl from HiLp-1 (Vessel 52) is greater than 14.5-by-5.3 cm in width and depth, respectively. It is not complete enough to determine length. A cup from the same site (Vessel 51) has an oriface length and width and a height of 7.0-by-6.0-by-6.2 cm, respectively.

Clearwater Lake Punctate vessels have at least one row of exterior punctates. Hlady (1971:17) originally established the type on the basis "of the distinctive one row of punctates on the rim". However, during the analysis of 127 vessels from the Kame Hills Site, the author (Dickson 1980) revised the type and included vessels with two rows of exterior punctates (Plate 16). The distinction between one and two rows of punctates was statistically significant when compared to a) the presence or absence of decoration on the lip or interior rim, and b) interior surface finish. It was not significant when tested against vessel form and only slightly significant when compared to exterior surface finish (Dickson 1980:66). From the tests of significance 12 combinations (A to L) of punctate rows, interior surface finish and decoration

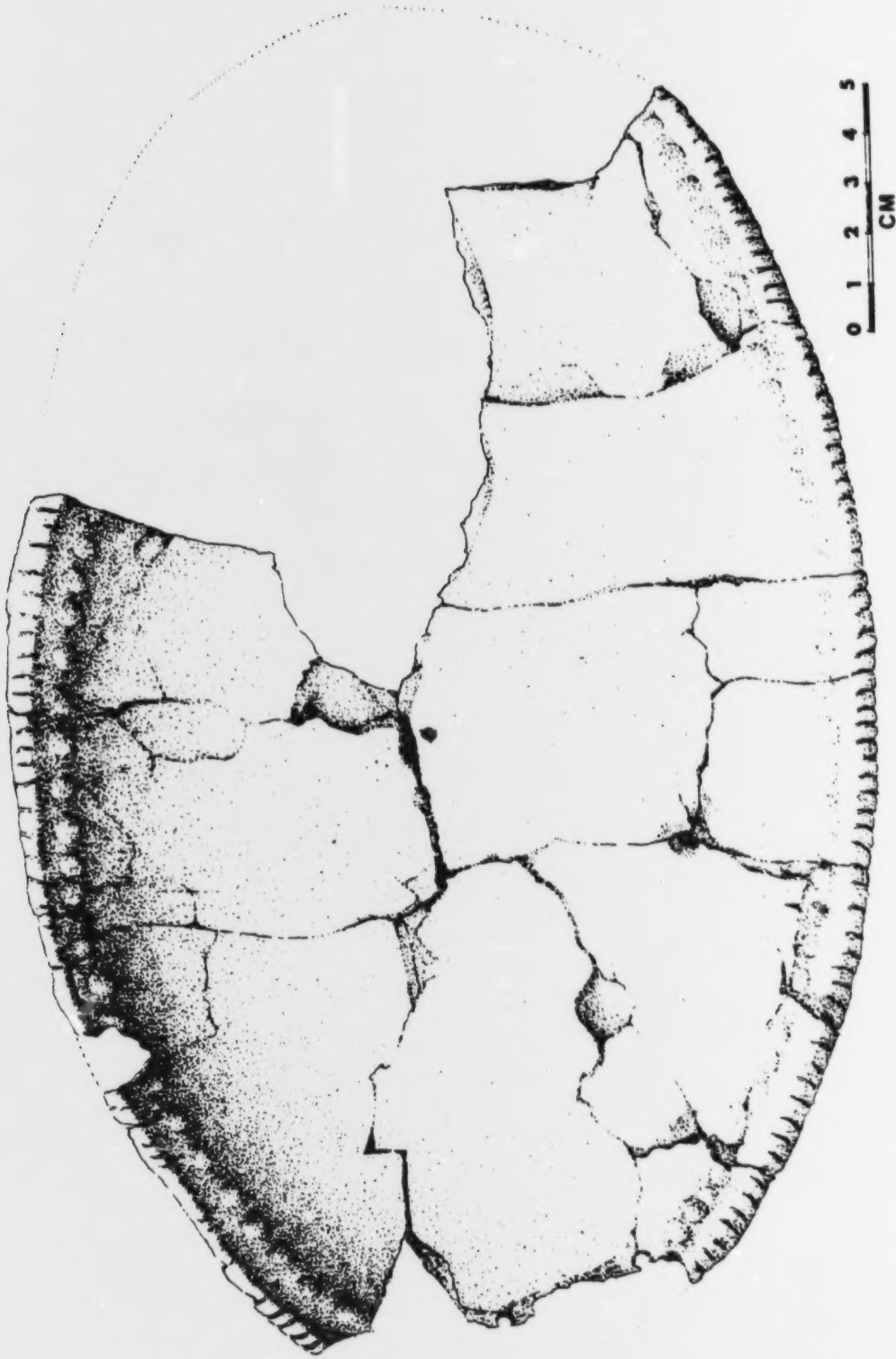


FIGURE 6 Clearwater Lake Punctate plate from Hilp-4, Vessel 1.

were established. They replaced Hlady's (1971:8-14) modes which were rejected (Dickson 1980: 56).

One vessel (#19) from HiLp-3 is classified as Clearwater Lake Punctate and does not have any visible exterior punctates. However, there are only three tiny sherds assigned to this vessel and they have one row of very shallow interior punctates which do not produce exterior bosses (Plate 19C). These punctates are located just below (2.6 mm) the lip and additional rows of either interior or exterior punctates may have been present.

The vessel appears to be a small plate. The exterior, lip and interior are smoothed. The vessel is not well constructed. It may have been made as a toy. It is included in the Clearwater Lake Punctate ceramic sample because it resembles some of the miniature vessels of this type which did have a row of exterior punctates.

Meyer (1978:14-15) recorded a large pot from the Limestone Point Site (GcMn-4) which had CWOI's on the outer edge of the lip (Mode 17) and interior punctates which formed exterior bosses. Otherwise, the vessel was characteristic of Clearwater Lake Punctate type. Therefore, it can be expected that a few aberrant vessels will be recovered.

Another aberrant vessel is known from Southern Indian Lake, but it is not part of the sample discussed in this report. The vessel (SIL 182/1073) has at least three rows of exterior punctates, fabric impressions on the interior rim and a cord-impressed and punctated lip. It is Clearwater Lake Punctate with three rows of exterior punctates. However, this is the only known occurrence.

In addition to exterior punctates decoration appears on the lip and/or interior rim of slightly less than 50% of the vessels from the Kame Hills Locality. It includes cord impressions, cord-wrapped-object impressions (CWOI's), incising, punctates, the impression of a black spruce (Picea mariana)

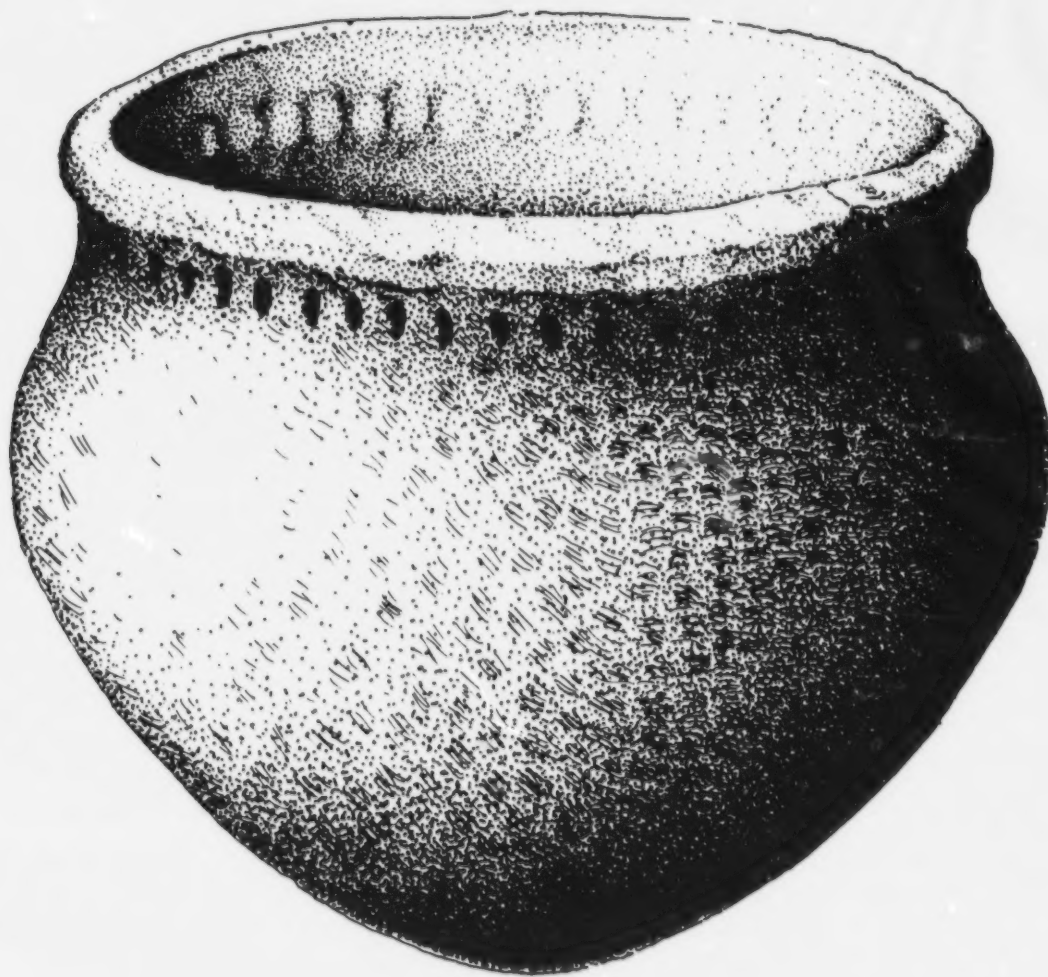


FIGURE 7 Small Clearwater Lake Punctate pot from Hilp-3,
Vessel 8.

twig which has been termed piceated, notching of the lip on the interior and/or exterior edge, or a combination of these. Table 2 summarizes the attributes recorded from 200 vessels from the Kame Hills Site (HiLp-1), the Isthmus Site (HiLp-3), the Raspberry Site (HjLp-7) and six survey sites, HjLo-1, HjLp-8 and HiLp-4 through 7. The individual vessels are summarized in Appendix II.

Vessel form is dominated by plates (46.5%) and pots (45.5%). Plates are more numerous overall, but pots outnumber them at all the sites except at HiLp-1 where there were 63 plates and 54 pots. Wood and Wasnick (1976:1) estimated that plates comprised 40% of the ceramic vessels from 22 sites within the Southern Indian Lake region. A sample of 76 vessels drawn from Hanna (1975), Wright (1968) and Kelly (1978) includes only ten plates (13.2%) and 64 pots (84.2%). However, this sample is obviously biased. For example, Hanna (1975:28-29) reported 13 pots (59.1%) and nine plates (40.9%) from two sites in the MacBride-Barrington Locale approximately 110 kilometers southwest of the Kame Hills Locality. Kelly on the other hand included 11 plates and 88 pots in his total sample of 105 vessels, but 47 vessels including ten plates were drawn from sites in the Kame Hills Locality. When these vessels and some non-Clearwater Lake Punctate type vessels were removed, the sample included only one plate. All of Kelly's and Wright's samples were collected from the south half of the lake and the implication is that plates decline in frequency from north to south. Certainly, plates are rare to non-existent outside of the region (Wood and Wasnick 1976:3).

Cups and bowls are present in low frequencies.

A single row of exterior punctates is dominant, but it is not universal as Hlady (1971:17) reported. Two rows of exterior punctates are present on 16.5% of the vessels from the Kame Hills Locality. The Kame Hills Site exhibits this percentage and the Isthmus Site is very close at

TABLE 2

Clearwater Lake Punctate Vessel Attributes in the Kame Hills Locality

ATTRIBUTES	Hilp-1		Hilp-3		Hjlp-7		Survey Sites		Total	
A. Vessel Form	54	42.5	18	50.0	10	47.6	9	56.3	91	45.5
Pots	63	49.6	15	41.7	8	38.1	7	43.8	93	46.5
Plates	5	3.9	0	0	1	4.8	0	0	6	3.0
Bowls	4	3.1	3	8.3	2	9.5	0	0	9	4.5
Cups	1	0.8	0	0	0	0	0	0	1	0.5
Pipe Bowl										
TOTAL	127	99.9	36	100	21	100.	16	100.1	200	100
B. Exterior Punctates	106	83.5	29	80.6	16	76.2	15	93.8	166	83.0
1 Row	21	16.5	6	16.7	5	23.8	1	6.3	33	16.5
2 Rows	0	0	1	2.8	0	0	0	0	1	0.5
Other										
TOTAL	127	100	36	100.1	21	100	16	100.1	200	100
C. Exterior Surface Finish	3	2.4	8	22.2	3	14.3	0	0	14	7.0
Smoothed	41	32.3	7	19.4	1	4.8	6	37.5	55	27.5
Smoothed Fabric-Impressions	40	31.5	9	25.0	3	14.3	5	31.3	57	28.5
Very Smoothed Fabric-Impressions	43	33.9	11	30.6	13	61.9	3	18.8	70	35.0
Obliterated Fabric-Impressions	0	0	1	2.8	1	4.8	2	12.5	4	2.0
Exfoliated										
TOTAL	127	100.1	36		21	100.1	16	100.1	200	100
D. Interior Surface Finish	65	51.2	27	75.0	10	47.6	11	68.8	113	56.5
Smoothed	35	27.6	6	16.7	2	9.5	2	12.5	45	22.5
Fabric-Impressed	26	20.5	3	8.3	9	42.9	3	18.8	41	20.5
Interior Rim	1	0.8	0	0	0	0	0	0	1	0.5
Fabric-Impressed Interior										
Exfoliated										
TOTAL	127	100.1	36	100	21	100	16	100.1	200	100
E. Decoration	75	59.1	19	52.8	12	57.1	7	43.8	113	56.5
None	26	20.5	2	5.6	5	23.8	5	31.3	38	19.0
Cord-Impressed	7	5.5	3	8.3	1	4.8	2	12.5	13	6.5
CWOI	2	1.6	3	8.3	0	0	0	0	5	2.5
Incised	7	5.5	3	8.3	0	0	0	0	10	5.0
Punctated	7	5.5	4	11.1	2	9.5	2	12.5	15	7.5
Piceated	1	0.8	0	0	1	4.8	0	0	2	1.0
Notched	1	0.8	2	5.6	0	0	0	0	3	1.5
Combination	1	0.8	0	0	0	0	0	0	1	0.5
Undetermined										
TOTAL	127	100.1	36	100	21	100	16	100.1	200	100
F. Mode	51	40.2	20	55.6	18	85.7	12	75.0	101	50.5
None	52	40.9	14	38.9	3	14.3	4	25.0	73	36.5
Basic	3	2.4	0	0	0	0	0	0	3	1.5
1	8	6.3	0	0	0	0	0	0	8	4.0
2	5	3.9	0	0	0	0	0	0	5	2.5
3	4	3.1	0	0	0	0	0	0	4	2.0
11	4	3.1	2	5.6	0	0	0	0	6	3.0
12										
TOTAL	127	99.9	36	100.1	21	100	16	100	200	100

16.7%. The Raspberry Site has a high percentage (23.8%) of vessels with two rows of punctates, but this is offset by the lack (6.3%) of two-row punctate vessels recovered from the six survey sites. Statistically, two rows of punctates are associated with decoration on the lip or interior rim and with fabric-impressed interiors. The latter is extremely high (42.9%) at HJLp-7, but the former is about average (42.9%). The combination (E) of decoration, two rows of punctates and fabric-impressed interior is more than twice the average (14.3% vs 7%).

Exterior surface finish was classified as smoothed if there was no indication of fabric impressions or if what may have been fabric impressions were so smoothed that they were totally unidentifiable. The fabric impressions on other vessels were either smoothed, very smooth or obliterated, but it was evident that they had been fabric-impressed. This distinction was subjective and the relatively close frequency of each indicates that they were not distinct. Obliterated fabric impressions (35%) were most frequent at all except the survey sites. Very smoothed fabric impressions (28.5%) were the second most frequent at all except HJLp-1 where there was one less vessel than there was with smoothed fabric impressions. The latter (27.5%) was slightly less frequent at all except the survey sites where it was dominant. Smoothed surfaces (7%) were the most erratic. None were recorded at the survey sites; three were recorded at each of the Kame Hills Site and the Raspberry Site, but they represent vastly different proportions (2.4% and 14.3%, respectively) of the site samples. At the Isthmus Site eight vessels (22.2%) had smoothed exterior surfaces. Most of these vessels were small plates, pots, bowls and cups. The pipe bowl is also included. They were hand modelled and there was no need to paddle them with fabric or place them in fabric bags or molds. They were usually clustered together on the sites, but fabric-impressed vessels were associated with them.

At the MacBride Site (HeLw-1) Wright (1968:4-6) recorded eight vessels with no decoration, no punctates, smoothed exterior and interior surfaces and a poorly composed paste. He classed these as late Selkirk Ware vessels and

tentatively proposed that the plain surfaces and the new paste characteristics are more a product of the disruptive effects of European metal containers upon the local ceramic complex than the result of internal aboriginal development. (Wright 1968:21)

On the basis of the Kame Hills Site ceramic sample (Dickson 1980:77), Wright's hypothesis was rejected because two of the three "plain-surfaced" vessels were associated with a radiocarbon date of 650 ± 100 B.P., A.D. 1300 (Gak-6065).

The 14 smoothed or plain-surfaced vessels discussed above have at least one row of exterior punctates and therefore, they were classed as Clearwater Lake Punctate types. However, as the MacBride Site illustrated, plain surfaces, no punctates and no decoration also occur. Fabric-impressed vessels with no punctates and no decoration were defined as Alexander Fabric-impressed type. However, three vessels from HiLp-1, HiLp-3 and HjLo-1 with plain surfaces, no punctates and no decoration also have been included in the type. Perhaps all plain-surfaced vessels should be classified as a new type and subdivided according to the presence or absence of decoration and none, one or two rows of punctates. The new type would overlap temporally and spatially with Clearwater Lake Punctate and Alexander Fabric-impressed types. However, it probably represents a different manufacturing technique and possibly a different function, e.g. juvenile vessels, miniature vessels, or drinking vessels, etc. The type may have persisted into the early Historic period as Wright (1968:21) suggested.

Finally, exterior surface finish could not be determined on four vessels because of exfoliation.

Interior surface finish was classified as smoothed, fabric-impressed interior rim, fabric-impressed interior and exfoliated. Exfoliated solely pertained to one vessel from the Kame Hills Site. Smoothed interiors (56.5%) were the most numerous at all the sites. They were most notable at the Isthmus and the survey sites. Fabric-impressed interior rim (22.5%) was the second most popular overall, but it retained this position only at the two major sites, HiLp-1 and 3. Fabric-impressed interiors (20.5%) were slightly less numerous overall, but they were very prominent at HjLp-7 and a distant second at the survey sites.

Decoration in addition to the exterior punctates was not frequent or varied. More than half (56.5%) of the vessels had none. Decoration always occurred on the lip, on the edge of the lip and/or on the interior rim. It never appeared on the exterior surface with the punctates. Cord impressions (19%) usually obliquely across the lip were the most popular decoration. They were most numerous in all samples except at the Isthmus site. Piceated lips (7.5%) were a distant second. The technique involves impressing a needleless black spruce twig into the plastic clay (Dickson 1980: Plate 27). The impressions were usually oblique and regularly spaced (HiLp-3, Vessel 5, Plate 12). It was most numerous at the Kame Hills Site, but the highest percentage (11.1%) was recorded at the Isthmus site. In addition to four vessels with piceated lips at this site, three vessels had a few piceations (Plate 13) on the lip (two) and interior lip edge (one). None of these were pronounced and they did not continue around the mouth of the vessel so the vessels were classified as undecorated. Two vessels (HiLp-3, Vessel 32 and HjLo-1, Vessel 1) had many small very shallow indentations on portions of the interior surface. It appeared that a needleless spruce twig had been rolled across the surface (Plate 19H and 20D). This was not

considered decoration since it was not regular. It was probably part of the finishing process.

Cord-wrapped-object impressions (CWOI's) were the next most frequent decoration occurring on 13 vessels (6.5%). They were less frequent at HiLp-1 and HjLp-7 and more frequent at HiLp-3 and the survey sites. In Hlady's (1971) sample CWOI's were dominant and cord-impressions were not recorded.

Punctate decoration was the only decoration recorded on ten vessels (5%) from the Kame Hills and Isthmus sites. There was a single row of punctates on the lip of six vessels and on the interior rim of three vessels. Two rows of punctates occurred on the interior rim of one vessel, but never on the lip as Hlady (1971:13) recorded. In addition, one vessel from HiLp-1 (Vessel 120) had a cord-impressed and punctated lip (one row); one vessel from HiLp-3 (#32, Plate 19H) had a piceated interior rim and one row of punctates beneath the interior bosses and another vessel from the same site (#40, Plate 8, Fig. 8) combined CWOI's on the interior rim with an extraordinarily punctated interior.

Incising occurred on the lip of five vessels (2.5%) from the Kame Hills and Isthmus sites. Notching of the lip was recorded at HiLp-1 and HjLp-7. At the former the interior edge of the lip was notched (Dickson 1980:60) and at the latter both the interior and exterior edges were notched (Plate 17D). The notches were directly opposite each other. One vessel from the Kame Hills Site was defined on the basis of a neck sherd only and decoration was undermined (Dickson 1980:60).

For comparative purposes Hlady's (1971:8-14) modes are noted, but they are no longer acceptable (Dickson 1980:56). In fact 50.5% of the

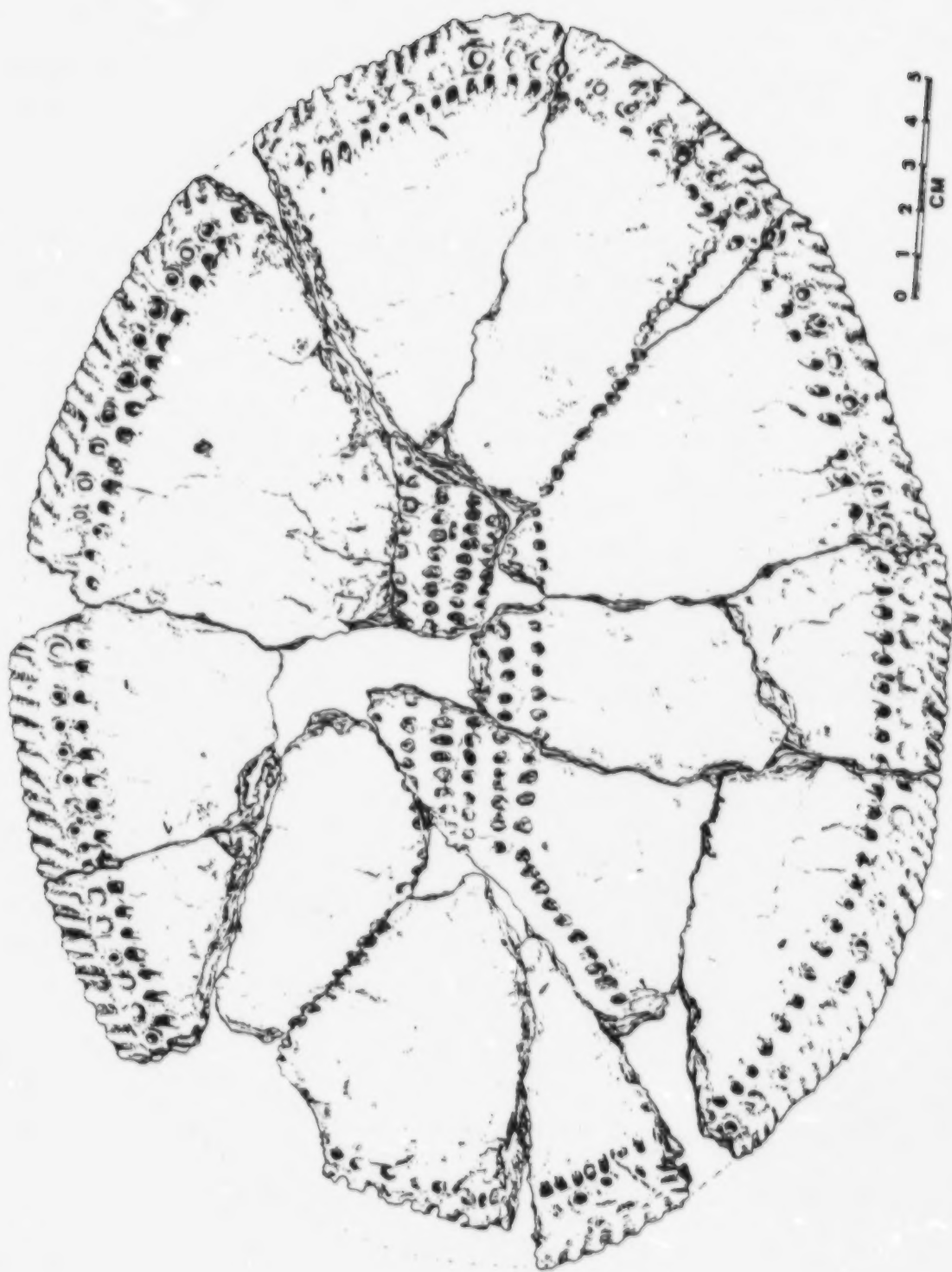


FIGURE 8 Clearwater Lake Punctate plate with an unusual interior design, HiLp-3, Vessel 40.

vessels from the Kame Hills Locality are not classifiable to an existing mode. There are 73 vessels (36.5%) classifiable to the Basic Mode. At the Kame Hills Site three (1.5%), eight (4%), and four (2.5%) vessels were classified to Modes 1, 2 and 3, respectively. However, Meyer (1978:8) has argued that the Basic Mode and Modes 1, 2 and 3 be combined. At the other sites in the locale the distinction was not made. Mode 11 was recorded on four (2%) vessels from Hilp-1 and Mode 12 was recorded on four vessels from the same site and on two vessels from Hilp-3.

The attribute combinations that were found to be significant in the analysis of the Kame Hills Site ceramics are presented in Tables 3 and 4. The former summarizes the 73 vessels from the Isthmus, Raspberry and survey sites according to vessel form. The latter distinguishes the combinations by site.

Pots are dominant particularly in combination A. In this sample pots do not exhibit combinations G, I or J. G and J do not occur in the sample. Only pots have combinations D and K. Plates dominate combination C and do not appear in combinations D, G, J, K and L. Plates are not exclusive to any combination. The unclassified vessel from Hilp-3 (#19 with no exterior punctates but one row of interior punctates) is a plate. There is only one bowl in the sample and it has combination A. The five cups have combinations A, B, H and L.

Combination A is predominate. In this sample there are 24 vessels (32.9%) and in the total Kame Hills Locality sample there are 58 vessels (29%). Combination B is third in this sample (9.6%) and third overall (17%), but it was the second most frequent combination at the Kame Hills Site. Combination D is tied for fifth with combination F in this

TABLE 3

Clearwater Lake Punctate Vessel Forms and
Attribute Combinations

ATTRIBUTE COMBINATIONS	POTS	PLATES	BOWLS	CUPS	TOTALS	
A. Undecorated, 1 row punctates and smoothed interior	17	4	1	2	24	32.9
B. Undecorated, 1 row punctates and fabric-impressed interior rim	1	5	0	1	7	9.6
C. Decorated, 1 row punctates and smoothed interior	4	14	0	0	18	24.7
D. Decorated, 1 row punctates and fabric-impressed interior	4	0	0	0	4	5.5
E. Decorated, 2 rows punctates and fabric-impressed interior	5	1	0	0	6	8.2
F. Undecorated, 1 row punctates and fabric-impressed interior	3	1	0	0	4	5.5
G. Undecorated, 2 rows punctates and fabric-impressed interior rim	0	0	0	0	0	0
H. Decorated, 2 rows punctates and smoothed interior	1	1	0	1	3	4.1
I. Decorated, 1 row punctates and fabric-impressed interior rim	0	3	0	0	3	4.1
J. Decorated, 2 rows punctates and fabric-impressed interior rim	0	0	0	0	0	0
K. Undecorated, 2 rows punctates and fabric-impressed interior	1	0	0	0	1	1.4
L. Undecorated, 2 rows punctates and smoothed interior	1	0	0	1	2	2.7
Unclassified	0	1	0	0	1	1.4
TOTALS	37	30	1	5	73	100.1

TABLE 4

Clearwater Lake Punctate Attribute Combinations
in the Kame Hills Locality

ATTRIBUTE COMBINATIONS	Hilp-1		Hilp-3		Hjlp-7		SURVEY SITES		TOTALS	
	f	%	f	%	f	%	f	%	f	%
A. Undecorated, 1 row punctates and smoothed interior	34	26.8	14	38.9	6	28.6	4	25.0	58	29.0
B. Undecorated, 1 row punctates and fabric- impressed interior rim	27	21.3	3	8.3	2	9.5	2	12.5	34	17.0
C. Decorated, 1 row punctates and smoothed interior	25	19.7	8	22.2	3	14.3	7	43.8	43	21.5
D. Decorated, 1 row punctates and fabric- impressed interior	10	7.9	1	2.8	2	9.5	1	6.3	14	7.0
E. Decorated, 2 rows punctates and fabric- impressed interior	8	6.3	2	5.6	3	14.3	1	6.3	14	7.0
F. Undecorated, 1 row punctates and fabric- impressed interior	7	5.5	0	0	3	14.3	1	6.3	11	5.5
G. Undecorated, 2 rows punctates and fabric- impressed interior rim	5	3.9	0	0	0	0	0	0	5	2.5
H. Decorated, 2 rows punctates and smoothed interior	5	3.9	2	5.6	1	4.8	0	0	8	4.0
I. Decorated, 1 row punctates and fabric- impressed interior rim	2	1.6	3	8.3	0	0	0	0	5	2.5
J. Decorated, 2 rows punctates and fabric- impressed interior rim	1	0.8	0	0	0	0	0	0	1	0.5
K. Undecorated, 2 rows punctates and fabric- impressed interior	1	0.8	0	0	1	4.8	0	0	2	1.0
L. Undecorated, 2 rows punctates and smoothed interior	1	0.8	2	5.6	0	0	0	0	3	1.5
Unclassified	1	0.8	1	2.8	0	0	0	0	2	1.0
TOTALS	127	100.1	36	100.1	21	100.1	16	100.2	200	100

sample (5.5%) and it is tied in fourth place with combination E in the locality (7%). Combination E is in fourth place in this sample (8.2%). Combinations A to E were recorded in all of the samples. Combination F which is in sixth place in the locality (5.5%) was not recorded at HiLp-3. Combination G was only recorded at the Kame Hills Site. It is tied for eighth place in the locality (2.5%) with combination I. The latter was recorded at the Kame Hills and Isthmus sites. In this sample it is tied for seventh place with combination H (4.1%). The latter is in seventh place in the locality (4%) and it was noted at HiLp-1 and 3 and at HjLp-7. Combination J was only recorded on one vessel (0.5%) from the Kame Hills Site. However, at least three vessels with this combination were collected elsewhere on the lake. Combination K (1%) was recorded at the Kame Hills and Raspberry sites, but only one vessel was present at each. Combination L (1.5%) was identified at the Kame Hills and Isthmus sites. There was one vessel, the pipebowl (Dickson 1980: Fig. 7, Plate 28A), at the former and two vessels, a pot and a cup, at the latter. One vessel at each of the latter two sites was unclassified.

Alexander Fabric-impressed

Alexander Fabric-impressed vessels are similar to Clearwater Lake Punctate vessels except for the absence of punctates and decoration (MacNeish 1958:166-167; Dickson 1980:76). The temper, texture, color, hardness, method of manufacture, surface finish and vessel form are identical. There is less variety in the former, but the sample is much smaller than the latter sample.

Four Alexander Fabric-impressed vessels were excavated at HiLp-3 and one was collected at each of HjLo-1 and HiLp-7 (Plate 22). There are four

plates, one pot and one cup. The pot, the cup and two plates were recovered at HiLp-3. The plate from HjLo-1 and the cup have smoothed exterior surfaces. The others have obliterated (three) and very smoothed (one) fabric impressions on the exterior. Four vessels including the vessels with the smoothed exterior have a smoothed interior. One plate has fabric-impressions on the interior rim and another has fabric-impressions on the interior.

Two Alexander Fabric-impressed vessels were recovered from the Kame Hills Site (Dickson 1980:76). The plate has a smoothed interior and obliterated fabric impressions on the lip and exterior surface. The cup has smoothed interior and exterior surfaces. It is very similar to the cup from the Isthmus Site.

Alexander Fabric-impressed vessels were also collected at the MacBride Site (HeLw-1), the Neck Site (HfLq-1), and the Flicker Site (SIL 257) although they were not identified as such by Wright (1968:4-6, 12) and Hanna (1975:29). Eight vessels from the MacBride Site and one vessel from the nearby Flicker Site had smoothed exterior and interior surfaces. One vessel from the Flicker Site and one from the Neck Site had fabric impressions on the exterior and lip. All the vessels are plates except for one small pot from the MacBride Site. Wright (1968:4-5) labelled them as bowls, but the author feels that most of them are plates (Dickson 1980:45).

In other northern regions Alexander Fabric-impressed vessels are rare. In northern Saskatchewan Meyer (1978:16) recorded only one vessel of 132. The small pot, which Meyer did not type but classified as Selkirk Ware, had a fabric-impressed exterior, a smoothed and flattened lip, a smoothed interior and no punctates. It was recovered from the Spruce Rapids Site (GdMo-5) on the Sturgeon Weir River. In northern Manitoba Hlady (1971:13)

assigned six plain rim sherds from the Clearwater Lake Site to Mode 20, Clearwater Fabric-impressed Plain. The mode has no punctates and therefore, it is Alexander Fabric-impressed and not Clearwater Lake Punctate (Meyer 1978:9; Dickson 1980:55). The sherds probably are from a single pot with a fabric-impressed exterior and a smoothed interior.

Daub

Daub is unformed, fired lumps of clay which are assumed to be by-products of ceramic manufacture. The lumps may or may not be tempered. They are usually rolled or pinched and sometimes fingerprints or fingernail impressions are visible.

Daub was collected at HiLp-3 and HiLp-7. Only four pieces were recovered at the latter. One is a small amorphous lump, but the other three appear to be fragments of a larger piece. The largest has several fingernail impressions on the outside and the impression of a cylindrical object on the interior. The object was approximately 11.5 mm in diameter (Plate 21 F and G). Another fragment has fingernail impressions, but the third fragment has none. Temper is not visible. The exterior is smooth with numerous drying cracks. It is light brown in color. The interior is reddish brown. The daub was collected from the surface of the site along with sherds from a Clearwater Lake Punctate pot (#1). From these small fragments it is impossible to determine what this may have been. Therefore, daub is the only classification.

At the former site 138 pieces of daub were recovered. All were amorphous lumps, but some illustrated fingerprints and fingernail impressions. The biggest concentration was in 0-15S/0-15E Level 1 where 72 pieces were collected. The daub was associated with a few chert and quartz flakes, some

burnt bone fragments and several smooth and cracked cobbles. This may have been a ceramic manufacturing activity area although no hearths are directly associated with it.

Some daub was associated with hearths. Eleven pieces were located around F6-73 and 38 pieces were recovered from F4-73. The remaining 17 pieces were collected in 30-40S/20-30E Level 1. F2-73 was also located in this unit but the daub was not directly associated with it. In all these instances the daub was associated with ceramics, but there were no other indicators of ceramic manufacture. Therefore, such an activity may be suggested for the area along with activities suggested by the other cultural remains collected from the area.

VI

LITHIC REMAINS

Lithic remains were not as prominent as the ceramics were at these sites. While minor amounts of lithic debris were recovered from all of the sites, lithic tools were located only at four sites. One retouched flake was collected at HJLp-8; one scraper and one retouched flake were recovered from HILp-5; 11 tools were found at HJLp-7 and 113 tools were excavated at HILp-3. A summary of the lithic tools and debris associated with each of the sites is presented in Table 5. The Kame Hills Site is included because all of the sites are contrasted with it in the following discussion.

The tool classifications employed at the Kame Hills Site (Dickson 1980) were used in this analysis so that the samples would be comparable. The attributes for each of the tool classes were identical for all of the sites and the same technique of analysis was employed. That is, each specimen was examined and its attributes were recorded on an analysis sheet. Summary tables were compiled from the sheets. The tables and the attributes defined for each tool class are presented in Appendices III to X.

Projectile Points

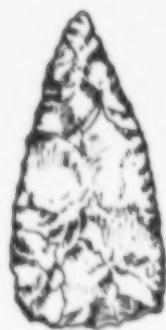
Five projectile points and point fragments were excavated at the Isthmus Site and one point was collected at the Raspberry Site. Points were not found at any of the other sites discussed in this report, but 40 points were recovered from the Kame Hills Site (Dickson 1980:87).

HILp-3/1604 (Fig. 9, Plate 1D) is the base of a side-notched chert projectile point. The upper portion of the notches and all of the

TABLE 5

Summary of Lithic Remains from Kame Hills Locality Sites

	Hilp-1	Hilp-3	HjLp-7	Hilp-5	HjLp-8	HjLo-1	Hilp-4	Hilp-6	Hilp-7	TOTALS
Projectile Points	40	5	1	0	0	0	0	0	0	46
Bifaces	136	13	1	0	0	0	0	0	0	150
Scrapers	171	15	1	1	0	0	0	0	0	188
Retouched Flakes	183	33	4	1	1	0	0	0	0	222
Utilized Flakes	37	25	3	0	0	0	0	0	0	65
Composite Tools	10	0	0	0	0	0	0	0	0	10
Chithos	5	7	0	0	0	0	0	0	0	12
Wedges	21	6	0	0	0	0	0	0	0	27
Whetstones	8	1	0	0	0	0	0	0	0	9
Hammerstones	8	5	1	0	0	0	0	0	0	14
Drills	1	1	0	0	0	0	0	0	0	2
Adzes	2	1	0	0	0	0	0	0	0	3
Miscellaneous Tools	12	1	0	0	0	0	0	0	0	13
Cores	114	10	1	2	0	0	0	0	0	127
Primary Flakes	10622	497	103	2	0	7	1	1	1	11234
Secondary Flakes	14577	651	119	2	1	3	2	0	0	15355
TOTALS	25947	1271	234	8	2	10	3	1	1	27477



a. HjLp-7/265



b. HiLp-3/2156



c. HiLp-3/2814



d. HiLp-3/1605



e. HiLp-3/1604



f. HiLp-3/2157

FIGURE 9 Kame Hills Locality projectile points.

blade are missing. The base is convex and unground. Retouch is minimal. On the dorsal face retouch occurs only marginally in the notch area and at one point on the base. On the ventral face marginal retouch extends around the base and into the notches. The tiny flake scars are parallel and perpendicular to the basal margin. The notches are not ground. The remaining portions of both faces are not retouched. The base is 16.1 mm wide, the maximum and minimum base lengths are 6.6 mm and 1.4 mm, respectively. The width at the notches is 9.1 mm.

Hilp-3/1605 (Fig. 9, Plate 1B) is a moderately large side-notched chert projectile point. The length is greater than 37.8 mm; the maximum width, which is at the proximal defining points of the blade, is 26.5 mm, the maximum thickness in the central portion of the blade is 6.9 mm and the weight is 6.5 grams. The longitudinal and transverse sections are biconvex. The blade is ovate in outline but slightly asymmetric. The original flake blank orientation is obscured. Retouch extends across most of both faces of the blade. The flake scars are variable. The edges of the blade are ground. The broad, shallow notches are almost squared and are ground. They are orientated perpendicular to the longitudinal axis. The width at the notches is 20.5 mm. The left notch is 6.9 mm wide and 2.2 mm deep. The right notch is 6.6 mm wide and 2.3 mm deep. The base is markedly convex. Retouch on the base element is minimal. Marginal retouch is present only on the lateral portions of the base element on both faces. The proximal margin between these areas is blunted. The base is 25.6 mm wide; the maximum and minimum base lengths are 11.4 mm and 5.6 mm, respectively.

Both projectile points were located beneath the moss in 0-10N/20-30W Level 1. A chert drill (#2533), a quartz end scraper (#1473),

three quartz (#1477, 1495 and 1502) and five chert (#1590, 1599, 1601, 1602 and 1603) retouched flakes, one utilized quartz flake (#1480), lithic debris and some burnt bone fragments were recovered in the same area. A Clearwater Lake Punctate pot (Vessel 1) was located nearby. In addition, three parts of a double barrel shotgun (#124-126) were collected from the surface of the moss a short distance away.

HiLp-3/2156 (Fig. 9, Plate 1A) is a small stemmed chert projectile point. It is 36.4 mm long, 19.5 mm wide, 6.6 mm thick and weighs 3.3 grams. The blade is slightly asymmetrical, excurvate in outline and the maximum width occurs just beyond the shoulder. The tip angle is 74° . The longitudinal and transverse sections are biconvex. All of the dorsal and most of the ventral faces are retouched. The flake scars are fairly regular and parallel. They are orientated perpendicular to the margin, but oblique to the longitudinal axis. There is slight grinding on the proximal lateral edges of the blade and more pronounced grinding on the contracting stem. The shoulders are rounded. The stem is 12.8 mm wide at the distal end and 9.7 mm wide at the base. The striking platform is located on the base. It is slightly oblique to the longitudinal axis of the specimen and as a result the base is slightly convex to pointed. It is not ground.

HiLp-3/2157 (Fig. 9, Plate 1C) is a small corner-notched quartzite projectile point. It is 26.6 mm long, 16.7 mm wide, 5 mm thick and weighs 1.8 grams. The blade is asymmetric ovate. The maximum width occurs at the shoulder. The lateral edges are irregular and it is difficult to measure the tip angle. The point is actually blunt and measured angles ranged from 46° to 70° . The longitudinal and transverse sections are biconvex. All of both faces are retouched. The flake scars are variable although most

are perpendicular to the margin. There is some grinding on the shoulder. The rounded notches are broad but relatively shallow. The left notch is 6.1 mm wide and 2.2 mm deep and the right notch is 5.1 mm wide and 2.4 mm deep. They are orientated slightly oblique to the longitudinal axis. The width at the notches is 10.4 mm. The base is irregular but forms roughly a straight line. It is not ground. It is 13.9 mm wide; the maximum and minimum base length are 5.4 mm and 2.1 mm, respectively.

These two points were located beneath the moss on 15-30S/15-30E Level 1. They were approximately two meters apart and very close to two hearths, F1-73 and F9-73. A chert side scraper (#14) was collected from the surface and two chert end scrapers (#997 and 998), a retouched chert flake (#999), a utilized chert flake (#1220) and lithic debris were excavated in the immediate area. There was also a large concentration of ceramics in and beneath the moss. There were sherds from one Alexander Fabric-impressed pot (#10) and eight Clearwater Lake Punctate vessels (#8 and 11 to 17). One fragment of unidentified metal was located in F1-73 (#1314).

Hilp-3/2814 (Fig. 9, Plate 1E) is a large side-notched chert projectile point. It is 61.1 mm long, 21.8 mm wide, approximately 7.5 mm thick and weighs 7.5 grams. The point is complete in length but extensive spalling has occurred on both faces. The blade is symmetric and is excurvate. The maximum width occurs just proximal of the midpoint of the blade. The lateral edges are even and the tip angle is 44°. The longitudinal and transverse sections are biconvex. All of both faces are retouched. The flake scars are parallel and for the most part perpendicular to the longitudinal axis and the margin of the specimen. There is some grinding on the lateral edges of the blade to the midpoint. The shoulders are rounded

and the rounded notches are narrow and shallow. The distal point of juncture of the haft element on the right notch is missing due to spalling on the ventral face. The left notch is missing due to spalling on the ventral face. The left notch is 5.1 mm wide and 2.4 mm deep. The notches are orientated perpendicular to the longitudinal axis. The width at the notches is 12.1 mm. The sub-element of the haft is squared and contracts. The proximal margin of the base is slightly convex. Finish on the base is irregular and it is not ground. The maximum width of the base is 16.4 mm and the proximal margin is 14.0 mm wide. The maximum and minimum base lengths are 8.6 mm and 1.8 mm, respectively.

The specimen was excavated from beneath the moss in 40-50S/30-40E Level 1. It was isolated from the other cultural remains, but three features, F3-73, F4-73 and F5-73, were located within eight meters of the point. Ceramics and burnt bone fragments were associated with the features. At least seven Clearwater Lake Punctate vessels (#19, 23 to 27 and 33) were represented. Lithics in the area included a chert end scraper (#80) and lithic debris.

The only projectile point recovered from the Raspberry Site was a large triangular chert point, HJlp-7/265 (Fig. 9, Plate 5A). The specimen is complete. It is 47.2 mm long, 23.1 mm wide, 6.3 mm thick and weighs 5.4 grams. The lateral edges are excurvate and symmetric. The maximum width occurs 8.5 mm distal of the base. The edges converge gradually to a slightly rounded point. The tip angle is 43°. The longitudinal and transverse sections are biconvex. All of both faces are retouched. The flake scars are parallel and perpendicular to the margin. There is no grinding on the lateral edges or the base. The base is thinned. There are a series of parallel flake scars perpendicular to the basal margin which is slightly convex. The base width is 20.5 mm.

The projectile point was collected from the surface of the site on the top of a small hill approximately 17 meters from the lakeshore and 4 meters above the lake. A chert end scraper (#264) and two quartz flakes were associated with the specimen. Sherds from Clearwater Lake Punctate vessels were located nearby. Test Pit 1 was excavated about 7 meters northwest. Some ceramics, a burnt bone fragment and a few historic items were recovered from the unit. The remains of a burnt-out structure were also located on the hill.

No radiocarbon dates were obtained from any of these sites and therefore, the projectile points must be dated on the basis of style and cultural association. HiLp-3/2814 is similar to Shield Archaic points from the Aberdeen, Grant Lake and Migod sites in the Keewatin District, Northwest Territories (Wright 1972b:36-37, 70, Plates XXIV and XXX; Gordon 1976:49-78) and to a point from the Notigi Lake Site in northern Manitoba (Wiersum and Tisdale 1977:126-130, Plate 13). All of these points are late in the Shield Archaic Tradition. Wright (1972b:55) radiocarbon dated house structure 1 at the Aberdeen Site at 1075 ± 90 B.C. (S-506) and Gordon (1976:76) obtained a radiocarbon date of 1730 ± 155 B.C. (S-982) associated with general Shield Archaic artifacts at the Migod Site. The Notigi Lake material was not dated. The Isthmus Site specimen does not have grinding on the base and would appear to be late in the tradition. None of the cultural remains associated with it relate to the tradition.

HiLp-3/1605 is a Late Shield Archaic projectile point. It does not resemble any of the points from the Kame Hills Site, but it is similar to a smaller point which Hanna (1975:27, Plate 3b) collected at SIL 109 in the MacBride-Barrington Locale. However, Hanna classified the point as

Whiteshell Side-notched and assigned it to a non-ceramic Laurel occupation. Laurel ceramics were not recovered from the site, but MacNeish (1958:102-103) and Mayer-Oakes (1970:121) associated Whiteshell Side-notched points with Laurel ceramics. On the other hand Wright (1972b: Plate XXI, Fig. 4) excavated a similar point from the Aberdeen Site and classified it as Late Shield Archaic. Laurel ceramics are not located this far north.

Laurel ceramics are absent at HiLp-3 and rare in the Southern Indian Lake region. Two vessels were recorded at the Kame Hills Site; one vessel was recovered from SIL 127 in Sandhill Bay; Wright (1968:18-19) found "fragments of a late Laurel tradition pot" at the Poplar Narrows Site and Wood (1975:9, 11) recovered several Laurel vessels from the Leaf Rapids Site and SIL 269 on the Churchill River above Southern Indian Lake. In the area immediately south of the lake several Laurel sites have been reported (Wiersum and Tisdale 1977; Hlady 1970; Mayer-Oakes 1970) but other than the Whiteshell Side-notched point no point styles have been directly associated with Laurel ceramics. Radiocarbon dates associated with Laurel sites in northern Manitoba span the period A.D. 1 - A.D. 1100 (Dickson 1980:Table 8). On Southern Indian Lake Taltheilei Tradition material, which dates to this period, has been recovered (Gordon 1975:102; Dickson 1980:97). Hence, the author has proposed that the Taltheilei Tradition dominated the region after A.D. 500 and Laurel ceramics appeared only briefly about A.D. 660 (Dickson 1980:83). Projectile points have not been associated with the latter.

The Aberdeen Site (Wright 1972b:87) is radiocarbon dated at 1075 ± 90 B.C. (S-506) and the Shield Archaic component at the Kame Hills Site (Dickson 1980:92) has radiocarbon dates of 3340 ± 65 B.P., 1390 B.C. (S-967), 3170 ± 70 B.P., 1220 B.C. (S-780) and 2695 ± 600 B.P., 745 B.C.

(S-779). Therefore, if this particular point style is associated with Laurel ceramics at Southern Indian Lake and with Shield Archaic artifacts at the Aberdeen Site, then it persisted for approximately 1700 years. It is much more likely, given the dearth of Laurel ceramics in the Kame Hills Locality, that the style is associated with the Shield Archaic Tradition.

HiLp-3/2156 is a Taltheilei projectile point. It is similar to several points excavated at the nearby Kame Hills Site (Dickson 1980: Plate 2). It is small, even smaller than the specimens from the latter site (Dickson 1980:95). However, this point and six of the 10 points from HiLp-1 were made of chert which does not appear to have been available in big pieces. The large Taltheilei points that Nash (1975) and Gordon (1976:122-126) collected from northern Manitoba and the Keewatin District were manufactured from quartz and quartzite which was readily available in large quantities and pieces in the area.

The style and the manufacturing attributes of this point indicate that it is a late Middle Taltheilei point (Gordon 1976:122-126; Dickson 1980:93-98). The Middle period has been dated between A.D. 150 and 600 and the Late period between A.D. 800 and 1750 at the Migod Site (Gordon 1977: Table 1). Therefore, an estimated date for this point is A.D. 500 to 900.

HiLp-3/2157 may be either a Late Taltheilei or a Terminal Woodland style. Both traditions occur in the locality and it is very difficult to distinguish the projectile points because side and corner-notched specimens are found in each (Dickson 1980:95). This point is manufactured from quartzite which is more prominent in the former tradition and it was located near the late Middle Taltheilei point. However, the latter was manufactured from chert and it was an earlier style. Ceramics were also associated with

the points. The style and the manufacturing technique are more like Woodland points. Therefore, the point is classified as a possible Terminal Woodland point.

HjLp-7/265 is definitely a Terminal Woodland point. Both large and small triangular points are associated with Woodland materials throughout Manitoba (MacNeish 1958; Mayer-Oakes 1970; Buchner 1979) and none have been associated with Taltheilei sites. Three small triangular points were recovered from the Kame Hills Site (Dickson 1980: Plate 3) and all were associated with Clearwater Lake Punctate ceramics. One of the points was estimated to date between A.D. 1200 and 1500 because it was associated with a hearth that was radiocarbon dated at 650 ± 100 B.P., A.D. 1300 (Gak-6065) and another was associated with a feature that was radiocarbon dated to the Historic period, but the radiocarbon date was rejected (Dickson 1980:102). The point from the Raspberry Site was associated with Clearwater Lake Punctate ceramics and recent Historic remains. Therefore, it can only be associated with the Kame Hills Complex which dates from A.D. 850 - A.D. 1750.

Finally, HiLp-3/1604 is too fragmentary to be typed. It was associated with one of the Shield Archaic points (HiLp-3/1605) and a drill (HiLp-3/2533) which is assigned to the Kame Hills Complex. Sherds from a Clearwater Lake Punctate pot (#1) were located nearby. Therefore, it could be associated with any of the cultures represented at the site.

Drill

Only one drill was recovered from these sites and one was excavated at the Kame Hills Site (Dickson 1980:103). The latter was classified as an Archaic Small Tool Tradition specimen and it differed quite radically from the former.

HiIp-3/2533 (Plate 1T) is manufactured from a non-decortication chert flake. The proximal third of the specimen is roughly rectangular and it tapers to fine but slightly rounded point. The angle is 21° . The overall length is 36.4 mm; the maximum width, which occurs on the proximal quarter, is 13.3 mm; the thickness is 2.4 mm and the weight is 1.1 grams. The longitudinal section is convex-concave and the transverse section is biconvex. Very fine retouch begins on the left lateral edge near the proximal end and continues to the tip. The retouch is unifacial on the upper one-third and bifacial thereafter. On the right lateral edge fine bifacial retouch begins slightly lower and continues to the tip. All the retouch is marginal, but the flake scars converge over the distal 10 mm. The flake scars are parallel and slightly oblique to the edge margin. In profile the edge is acute; in plan view it is serrated and transversely it is sinuous.

The specimen was excavated from beneath the moss in 0-10N/20-30W Level 1. A Clearwater Lake Punctate pot (Vessel 1) was located nearby as were some quartz fragments. In an adjoining concentration there were two chert projectile point fragments (#1604, 1605), a quartz end scraper (#1473), three quartz (#1477, 1495 and 1502) and five chert (#1590, 1599, 1601, 1602 and 1603) retouched flakes, one utilized quartz flake (#1480), lithic debris and some burnt bone fragments. Three parts of a double barrel shotgun (#124-126) were collected from the surface of the moss in the same locality.

The drill was most closely associated with the ceramics and the manufacturing technique is similar to that observed on Terminal Woodland tools from HiIp-1 (Dickson 1980: 95). Therefore, the drill is associated with the Kame Hills Complex.

Bifaces

Only 13 bifaces were recovered from the Isthmus Site and one was collected at the Raspberry Site. They are itemized in Appendix IV. Table 6 summarizes the discrete attributes recorded and Table 7 presents the mean, standard deviation and variance for the sample. Only complete measurements were used in the calculation.

The small sample metrics are similar to the metrics for the 136 bifaces excavated at the Kame Hills Site (Dickson 1980:105). The mean lengths and thicknesses of the two samples are very close. The former sample is wider but not significantly. It is also heavier, but two very large specimens skew the sample. In both samples weight is highly variable.

However, there are technological differences between the samples. The samples from HiLp-3 and HJLp-7 have proportionately more finished bifaces and less blanks than the larger sample. There are also less quartz specimens and slightly higher ratios of chert, quartzite and other lithic raw materials in the smaller sample. The sample from HiLp-1 has several specimens manufactured from non-decortication flakes and two from cobbles. Neither blank type occurs in the former. The large sample includes outlines such as triangular, lamellar, rhomboid and rectangular which do not occur in the small sample. The latter has more trapezoidal and irregular shaped specimens and fewer ovate bifaces. It also has less marginal retouch and more of the rough and finished type. Acute edge profiles are dominant in the small sample whereas square profiles predominate in the large sample. The edge plan views and transverse edge configurations are more varied with straight and broken types present in the latter. The former has primarily scalloped and sinuous edges.

TABLE 6

Summary of H1lp-3 and H1lp-7
Biface Discrete Attributes

A. Condition		B. Type	
Complete	7	Blank	2
Incomplete	7	Preform	6
	14	Finished	6
			14
C. Raw Material		D. Blank Type	
Chert	7	Decortication Flake	4
Quartz	3	Core	2
Quartzite	2	Obscured	7
Other	2	Indeterminate	1
	14		14
E. Outline		F. Extent of Retouch	
Ovate	1	Marginal	4
Trapezoidal	3	Rough	5
Irregular	5	Finished	5
Indeterminate	5		14
	14		
G. Edge Profile		H. Edge Plan View	
Acute	7	Serrated	1
Square	5	Scalloped	9
Round	1	Broken	1
Indeterminate	1	Irregular	1
	14	Indeterminate	2
			14
I. Transverse Edge Configuration			
Sinuous	9		
Curvate	1		
Irregular	1		
Indeterminate	3		
	14		

TABLE 7

Summary of H1lp-3 and H1lp-7 Biface Metric Attributes

SAMPLE		LENGTH	WIDTH	THICKNESS	WEIGHT
Complete Specimens	$\bar{x}$	54.8	42.25	11.91	52.09
	s.d.	18.99	16.91	5.44	61.49
	s^2	360.52	285.81	29.61	3781.19
	n	7	8	10	7

At HiLp-1 several bifaces were associated with the Taltheilei Tradition and with the Terminal Woodland Tradition; one specimen was radiocarbon dated and assigned to the Shield Archaic Tradition (Dickson 1980:107). In addition, Arctic Small Tool, Pelican Lake, Laurel and Blackduck artifacts were identified at the site and although none were bifaces, some of the sample may have been associated with these cultures. At HiLp-3 the projectile points were classified as Shield Archaic, Taltheilei and Terminal Woodland and the single point from HJLp-7 was typed as Terminal Woodland as well. None of the bifaces from these sites are attributed to a specific archaeological tradition, but most likely more than one tradition is represented. The dissimilarity between the samples may reflect the divergent cultural histories of the sites. Further research is necessary to resolve this problem.

Scrapers

Scrapers were collected at HiLp-3 (15), HJLp-7 (one) and HiLp-5 (one). Appendix V itemizes the sample and Tables 8 and 9 summarize the discrete and metric attributes, respectively. Only complete measurements were used in the calculations. In addition, the chert and the end scraper samples were large enough that it was reasonable to compute mean, standard deviation and variance.

This sample is longer, wider, thicker and heavier than the 133 scrapers recovered from the Kame Hills Site (Dickson 1980: Table 14); the working edge widths, lengths and angles and the beta angle are greater. However, the scrapers located on the Surface and in Level 1 at the latter site are almost as long and heavy; they are wider and thicker and the working

TABLE 8

Summary of H1lp-3, H1lp-7 and H1lp-5
Scraper Discrete Attributes

A. Condition		B. Type	
Complete	13	End	13
Incomplete	4	Side	4
	17		17
C. Raw Material		D. Outline	
Chert	13	Ovate	1
Quartz	3	Sectorial	2
Quartzite	1	Rhomboid	2
	17	Trapezoidal	2
		Irregular	8
		Indeterminate	2
			17
E. Cortex		F. Edge Profile	
Present	7	Acute	5
Absent	9	Square	12
Indeterminate	1		17
	17		

TABLE 9
Summary of Hilp-3, Hilp-7, and Hilp-5 Scraper Metric Attributes

SAMPLE				THICKNESS	WEIGHT	WORKING EDGE		BETA ANGLE
	LENGTH	WIDTH				WIDTH	LENGTH	
A. All Complete Scrapers	$\bar{x}$	30.97	22.41	7.67	6.35	20.54	3.39	74.78
	s.d.	12.26	7.76	3.40	5.82	8.53	2.10	6.85
	s^2	150.31	60.22	11.56	33.87	72.76	4.41	46.92
	n	15	16	16	13	16	16	17
								7
B. End Scrapers	$\bar{x}$	30.48	23.48	8.08	7.15	20.59	3.78	75.12
	s.d.	13.08	8.16	3.50	6.01	7.07	2.10	7.66
	s^2	171.09	66.59	12.25	36.12	49.98	4.41	58.68
	n	12	12	12	11	12	12	13
								5
C. Chert Scrapers	$\bar{x}$	29.53	21.90	6.92	5.23	18.42	3.20	74.17
	s.d.	13.11	7.80	2.93	5.19	6.55	2.26	5.70
	s^2	171.87	60.84	8.58	26.94	42.90	5.11	32.49
	n	12	13	13	11	13	13	13
								5

edge widths and lengths and the beta angle are greater. The working edge angles are slightly shallower. The end scrapers from the former, like the total sample, are longer, wider, thicker and heavier; the working edge widths, lengths and angles are greater than those at the latter, but the beta angles are almost exactly the same. The chert specimens from HiLp-3, HJLp-7 and HiLp-5 also are longer, wider, thicker, and heavier; the beta angle and the working edge widths, lengths and angles are greater than the HiLp-1 sample. However, they are not as varied.

The discrete attributes for both samples differ as well. The smaller sample has proportionally more end scrapers, quartz and quartzite specimens, and acute edge profiles. The larger sample has more chert specimens, a larger variety of outlines, more ovate specimens and cortex is present on more of the scrapers. Round edge profiles occur only in the large sample.

Retouched Flakes

Retouched flakes were identified at four sites. One specimen was collected at each of HiLp-5 and HJLp-8; four were recovered from HJLp-7 and 33 were excavated at HiLp-3. Appendix VI details the sample and Tables 10 and 11 summarize the discrete and metric attributes, respectively. The latter also provides metrics for retouched flakes of chert, quartz and other lithic raw materials.

The metrics for this sample are very similar to those obtained from 132 of 183 retouched flakes recovered from the Kame Hills Site (Dickson 1980: Table 17). The latter are slightly longer, narrower, thicker and heavier, but the distinction is minimal. The chert sample from the former is a bit

TABLE 10

Summary of HJlp-3, HJlp-7, HJlp-5 and HJlp-8
Retouched Flake Discrete Attributes

A. Condition		B. Raw Material	
Complete	30	Chert	24
Incomplete	9	Quartz	10
		Other	5
	39		
			39
C. Outline		D. Cortex	
Ovate	3	Present	23
Lamellar	1	Absent	14
Rhomboid	1	Indeterminate	2
Trapezoidal	2		
Irregular	25		39
Sectorial	1		
Indeterminate	6		
	39		
E. Edge Profile			
Acute	15		
Square	20		
Round	2		
Indeterminate	2		
	39		

TABLE 11

Summary of H1lp-3, H1lp-7, H1lp-5 and H1lp-8
Retouched Flake Metric Attributes

SAMPLE		LENGTH	WIDTH	THICKNESS	WEIGHT
A. All Complete Specimens	$\bar{x}$	32.59	24.95	8.44	9.24
	s.d.	13.39	11.64	4.89	12.94
	s^2	179.29	135.49	23.91	167.44
	n	34	34	34	34
B. Chert Specimens	$\bar{x}$	27.83	18.88	6.41	3.38
	s.d.	8.61	6.08	3.00	3.21
	s^2	74.13	36.97	9.00	10.30
	n	19	19	19	19
C. Quartz Specimens	$\bar{x}$	35.22	31.73	13.42	18.47
	s.d.	8.01	14.51	4.93	17.53
	s^2	64.16	210.54	24.30	307.30
	n	10	10	10	10
D. Specimens of Other Raw Materials	$\bar{x}$	45.42	34.46	6.16	13.04
	s.d.	25.89	8.69	3.79	15.78
	s^2	670.29	75.52	14.36	249.01
	n	5	5	5	5

shorter, narrower, thinner and lighter than the latter and the quartz sample is shorter and lighter but slightly wider and thicker than the quartz-quartzite sample from HiLp-1. The mean, standard deviation and variance were not calculated for the retouched flakes manufactured of other lithic raw materials at the latter. The five specimens in this sample are large and varied.

There is not much to choose between the discrete attributes of the two samples. Complete versus incomplete specimens are about the same. There are less chert and more quartz and other raw material types of retouched flakes in the small sample than in the large sample and the latter also includes eight quartzite specimens. Outlines vary slightly. This sample has no triangular specimens, less rhomboid, more trapezoidal and irregular and a sectorial specimen. The presence or absence of cortex is not differentiated between samples. The small sample has less acute edge profiles and more square and round profiles than the large sample.

Utilized Flakes

Three utilized flakes were collected at HjLp-7 and 25 were excavated at HiLp-3. They are itemized in Appendix VII; Table 12 summarizes the discrete attributes of the sample and Table 13 presents the metric attributes for all the complete, chert, quartz-quartzite and other raw material specimens.

As was the case with the retouched flakes, there is not much variation between this sample and the 37 utilized flakes excavated at the Kame Hills Site (Dickson 1980: Tables 19 and 20). This sample is slightly shorter, wider, thicker and lighter than the latter. The chert specimens

TABLE 12

Summary of HiLp-3 and HJLp-7
Utilized Flake Discrete Attributes

A. Condition

Complete	27
Incomplete	1
	28

B. Raw Material

Chert	8
Quartz	11
Quartzite	3
Other	6
	28

C. Outline

Triangular	1
Ovate	2
Lamellar	3
Rectangular	1
Trapezoidal	1
Irregular	19
Indeterminate	1
	28

D. Cortex

Present	22
Absent	6
	28

E. Edge Profile

Acute	24
Square	4
	28

TABLE 13

Summary of H1lp-3 and H1lp-7 Utilized Flake Metric Attributes

SAMPLE		LENGTH	WIDTH	THICKNESS	WEIGHT
A. All Complete Specimens	$\bar{x}$	31.64	24.30	8.47	7.28
	s.d.	11.44	9.09	4.48	9.30
	s^2	130.87	82.63	20.07	86.49
	n	27	27	27	27
B. Utilized Flakes of Chert	$\bar{x}$	26.11	16.90	5.39	1.67
	s.d.	5.98	5.08	3.75	1.54
	s^2	35.76	25.81	14.06	2.37
	n	7	7	7	7
C. Utilized Flakes of Quartz and Quartzite	$\bar{x}$	33.28	27.95	11.02	11.36
	s.d.	13.44	9.78	4.20	11.45
	s^2	180.63	95.65	17.64	131.10
	n	14	14	14	14
D. Utilized Flakes of Other Raw Materials	$\bar{x}$	34.28	24.40	6.12	4.28
	s.d.	10.42	6.02	1.88	1.96
	s^2	108.58	36.24	3.53	3.84
	n	6	6	6	6

in the former are somewhat longer, narrower, thinner and lighter than the latter. The quartz-quartzite specimens are shorter, wider, thinner and lighter than the latter. The mean, standard deviation and variance were not calculated for the two utilized flakes of other lithic raw material recovered from HiLp-1. The six specimens included in this sample are the largest, but they are not as varied as the quartz-quartzite or the total samples.

The discrete attributes of the two samples are slightly diversified. There is one incomplete specimen in each sample. Chert dominates the HiLp-1 sample, but it is much less important in the HiLp-3 and HJLp-7 sample. Quartz dominates the latter, but it is only 39.3% of the sample whereas it is 32.4% of the former sample. Quartzite has a slightly higher percentage in the latter sample as well, but other lithic raw materials such as siltstone (four) and basalt (two) are quite important. At HiLp-1 a slate and a sandstone utilized flake were recorded. The latter also included crescent and rhomboid specimens, but not trapezoidal. This sample has more irregular outlines and less triangular, lamellar and ovate outlines. The latter also has a higher ratio of cortex present and acute edge angles. Round profiles are not recorded in this sample, but one was noted on the HiLp-1 sample.

Chithos

Chithos are large, flat tools which are usually produced from friable rock. The dorsal and ventral surfaces are the natural fracture planes and/or the cortical surfaces. The edge is ground or roughly chipped in a bifacial or, more rarely, unifacial manner with flake scars or grinding restricted to the immediate edge of the tool, yielding an abrasive rather than a cutting edge (Dickson 1980:133).

The only chithos in this sample were excavated at the Isthmus Site (Appendix VIII). Two were incomplete and five were complete. However, one (Plate 3) was reconstructed from seven fragments and six of the fragments could be classified as chithos by themselves. This large specimen (HiLp-3/2410-2416) is ovate and the entire edge has been rounded. It is 214 mm long, 175 mm wide, 19.8 mm thick and weighs 1026.2 grams. It is manufactured from micro-granite. The dorsal surface is relatively flat and smooth. The ventral surface is slightly irregular but smooth in several areas. The edge was rounded before the specimen broke.

HiLp-3/2408, 2409 and 2434 (Plate 4C) are connected fragments of a large chitho which is similar to the one above, but this restoration is incomplete. It appears to have been oval with a rounded edge. HiLp-3/2407 (Plate 4A) is also manufactured from micro-granite. It is a single fragment which may have been part of a large oval chitho, but it could be complete as it is. The edge is mostly square with only slight rounding. The dorsal surface like that of the incomplete specimen is perfectly smooth. It may have been ground, but scorching of the surface and the nature of the material prevent positive identification. The ventral surfaces are slightly irregular but fairly smooth.

The above specimens were located in a small concentration in 30-40S/0-10E Level 1. A quartz biface (#97) was collected from the surface in 1971 and several chert and quartz flakes and assorted lithic debris were associated with the chithos.

HiLp-3/1774 and 1779 is an incomplete specimen manufactured from micro-granite. Only the distal edge, of this irregular-shaped specimen is slightly battered and rounded. It was located in 10-20S/10-20W Level 1.

Sherds from Vessel 6 were located in the unit, but none were associated with the chitho. However, two end scrapers (#1865 and 1869), seven retouched flakes (#1725, 1765, 1790, 1795, 1854, 1861 and 1863), five utilized flakes (#1859, 1862, 1864, 1866 and 1868) and lots of lithic debris were associated with the chitho.

HiLp-3/2153 (Plate 4B) is manufactured from a slightly friable ovate slab of quartzite. Natural surfaces are present on both faces. Two large flakes were removed from the distal end producing a slightly rounded working edge. Smaller flakes were removed from the lateral edges and the proximal end, but they do not seem to have served any practical purpose. One of the large flakes (#2155) was recovered near the chitho. Both were located in 0-10S/0-10W Level 1 in association with two retouched flakes (#563 and 565), six utilized flakes (#564, 571, 604, 609, 639 and 653), four of the six wedges excavated at the site (#579, 583, 635 and 1660), a large amount of lithic debris and one small body sherd. The latter probably originated from a nearby concentration.

HiLp-3/1432 is a small semi-lunar basalt flake with use wear on the curved distal edge. Although it is not a true chitho, it probably served a similar function and therefore, it is included in this class. It was collected in 0-10N/10-20W on the surface. Nothing was directly associated with it.

HiLp-3/1629 is a large ovate quartzite chitho. The right lateral working edge is rounded. It was excavated in 10-20N/0-10W and no other tools were associated with it.

Wedges (Pièce esquillées)

Only six wedges were recorded and all were located at the Istimus Site (Appendix IX). Three specimens were chert, two were quartz and one was a basaltic pebble that had been battered at both ends (Plate 5J). Four wedges were based on cores and one was a non-decortication flake. All were complete. The proximal and distal edges were battered and crushed. Four specimens were collected from 0-10S/0-10W Level 1. They were included in a chipping station along with two retouched flakes (#563 and 565), six utilized flakes (#564, 571, 604, 609, 639 and 653), one chitho (#2153), a large amount of lithic debris and one small body sherd. The others were collected at opposite ends of the site.

Whetstone

One small slate whetstone (#1873, Plate 5K) was excavated at Hilp-3. It is an irregular shaped decortication flake with some grinding on the ventral face. The ground area is approximately 15 mm wide and extends two-thirds the length of the flake. The flake is 95.3 mm long, 48.7 mm wide, 13.6 mm thick and weighs 46.2 grams. The longitudinal section is irregular-concave and the transverse section is biconvex. Portions of the distal end are ground as well.

The specimen was excavated in 10-20S/20-30W Level 1. The only other remains located in the unit were a few bone fragments, a fractured quartz cobble and two primary quartz flakes. It cannot be associated with any of the classified cultural remains from the site and it is not similar to any of the eight whetstones collected at the Kame Hills Site.

Adze

One small complete adze (#2320) was excavated at the Isthmus Site (Plate 2A). It is manufactured from peridotite which is greenish in color. The original blank was a core or slab rather than a flake. It has an ovate outline and biconvex longitudinal and transverse sections. Both faces are roughly flaked and both ends are ground on both faces. The gridding is extensive and extends 15-36 mm from the edges towards the center of the specimen. The specimen is 74.4 mm long, 51.4 mm wide, 17.8 mm thick and weighs 103.3 grams. The proximal working edge is 39.6 mm wide and the working length is 5.1 mm. The distal edge is 37.2 mm wide and the working length is 5.4 mm. The working edge angles are 49°, proximal, and 78°, distal. The edges are acute in profile, curvate in plan view and straight when viewed along the transverse axis. The proximal end has been broken and battered for about half its width.

The adze was excavated from beneath 5 cm of moss in 15-30S/0-15E Level 1. A rough basalt biface (#2321) and two utilized flakes of chert (#2322) and quartzite (#2323) were located in the immediate vicinity. Several other lithic tools including two projectile points (#2156 and 2157), lithic debris and sherds from one Alexander Fabric-impressed pot and eight Clearwater Lake Punctate vessels were recovered within 10 meters of the adze.

At the Kame Hills Site six adzes were collected (Dickson 1980:134). None of them duplicate the specimen from the Isthmus Site, but all of them have a number of attributes in common. At the former site it was clear that the specimens were associated with Clearwater Lake Punctate ceramics and they were included as part of the Kame Hills Complex. There are no parallels

to these adzes in any of the other cultures represented in the locality. Therefore, although the association between the ceramics and the adze are rather vague, the latter is assigned to the Kame Hills Complex.

Hammerstones

One small granite hammerstone was collected at the Raspberry Site and five specimens were excavated at the Isthmus Site. Three of the hammerstones were granite and two were quartzite. All are ovate in outline with battering in one or more locations. None of them show any sign of hafting. All the attributes are itemized in Appendix X.

Miscellaneous Tools

A single ground flake was collected at Hilp-3 (#2647, Plate 51). It is an irregular shaped flake of rhyolite with a small amount of grinding along the left lateral edge on both faces. The edge shows some use wear. It is acute in profile, convex in plan view and straight along the transverse axis. The flake may be part of a larger tool. It is 22.6 mm long, 18.6 mm wide, 4.6 mm thick and weighs 2 grams. The longitudinal and transverse sections are biconvex.

The specimen was collected from 30-40S/20-30E Level 1. A siltstone biface (#2625), a retouched quartz flake (#2632), some lithic debris and several concentrations of ceramics which included sherds from three Clearwater Lake Punctate pots (#20, 21 and 34) were associated with the ground flake. There are no comparable specimens from any of the sites.

VII

HISTORIC REMAINS

Historic artifacts were not prominent at sites in the Kame Hills Locality despite the fact that residents of South Indian Lake regularly hunted, fished and trapped in the area. A fish station and several scattered cabins were located in the locality. The fish station operated until the late 1960's and ice was available in the ice house until 1972. Later there were plans to rebuild the station on higher ground, but these were not carried out.

A smaller fish station, which probably operated in the 1950's when independent buyers were active on the lake, was located on the Raspberry Site. In the 1960's a fire razed the buildings and destroyed part of the forest surrounding the station. The remains of a building were readily visible on a small rise about 17 meters from the shore and four meters above the 1975 lake level. Refuge heaps and individual items were scattered across most of the prehistoric site area. In fact, almost every test pit excavated at the site yielded items such as tin can lids, bottle caps, glass fragments and round nails. Most of these artifacts were noted and discarded. Only six specimens were returned to the lab and were catalogued. They were a metal clasp, a pot handle, a lead weight, a small glass bead, a nut and a small piece of a phonograph record.

One feature, Fl-75, was classified as Historic. The hearth was covered with three cm of clay and yielded sherds from a Clearwater Lake Punctate pot, some lithic debris, two pieces of aluminium foil and a bottle cap. The miscegenation of historic and prehistoric artifacts in the feature

was typical of most of the site. In addition, ceramics and faunal remains were shattered from people and animals tramping around the site. The fire had destroyed the remainder. Therefore, contextual data was poor at this site.

At the Isthmus Site there was not very much disturbance and only six Historic objects were collected. The most recent was a break-action double-barrel shotgun. It is a 12 gauge model which was manufactured in the United States by Riverside Arms Company. Most of the metal parts are present and the left barrel is ruptured near the middle. The explosion would have seriously wounded the left hand of a right-handed shooter.

Part of another shotgun was collected from the site. It was a 20 gauge percussion cap double-barrel shotgun. One barrel, the hammers, lock plate (Fig. 10C) and triggers were located together. A brass butt plate (Fig. 10A and B) which probably was from this gun was collected approximately 66 meters away. The "Hudson's Bay Company" name is quite visible on both lock plates. The shotgun probably dates to the latter half of the 19th Century.

A cast white-metal button (Plate 23C) and two small fragments of a red clay pipe bowl (Plate 23A and B) also date to this period. The button is plain and probably had a brass coating. The wire eye is set into a boss on the back. There is a burr edge around the eye. Concentric circles on the back of the button indicate that it was spun until the proper thickness was obtained. The pipe bowl was manufactured in a mold and has an incised design. Similar pipe bowls and buttons have been recovered at Riel House in Winnipeg (P. Priess, Personal Communication:1980).

The other specimens collected were a steel knife (Plate 23F) minus the handle, part of a flat file (Plate 23E) and a flat piece of brass

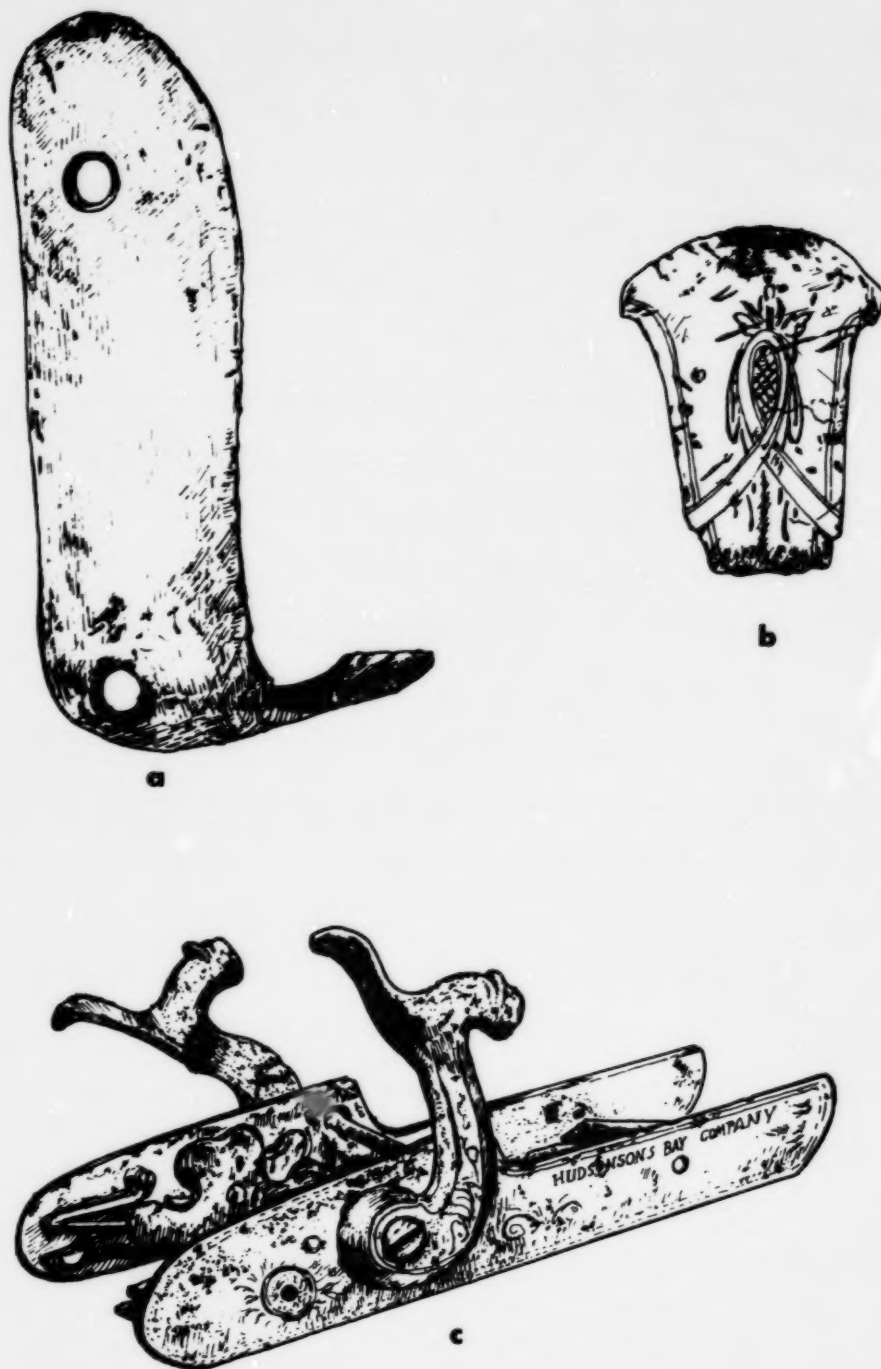


FIGURE 10 Parts of a Hudson Bay percussion cap shotgun from HiLp-3: a. Brass butt plate, b. Design on end of butt plate and c. Lock plate and hammers.

(Plate 23D). The knife has a 17.5 cm (approximately 7 inches) blade. There is a cross over the letter "L" on the blade. Apparently, this insignia belonged to a manufacturer in Sheffield, England and was used for a long period of time (P. Priess, Personal Communication: 1980). The file is unremarkable and the piece of brass has no definable form.

The recent shotgun was collected from the Surface in 0-10N/20-30W (Fig. 4). A Clearwater Lake Punctate pot (Vessel 1) was located approximately 1 meter south beneath the moss and several lithic tools including a Shield Archaic point (#1605) and a projectile point fragment (#1604) were excavated 3 meters southeast beneath the moss. The butt plate was recovered from the surface about 10 meters northeast of the shotgun in 10-20N/10-20E. The butt plate is believed to be part of the percussion cap shotgun which was collected from the surface 66 meters southwest in 40-50S/10-20E. However, the butt plate is nicked and battered at both ends as if it was used after it was detached from the stock. Therefore, it was most likely redistributed at a later date.

The two pipe bowl fragments were collected from the surface of 0-10S/20-30W. Sherds from a Clearwater Lake Punctate pot (Vessel 5), lithic tools, lithic debris and a hearth, F8-73, were located in the same area. The hearth and most of the artifacts were beneath the moss.

The file was found on the surface of 10-20N/20-30W. A few scattered fragments of burnt bone were collected from the surface, but no cultural remains were excavated.

The knife was uncovered in 10-20N/0-10W Level 1. A chert wedge (#1606), a quartzite chitno (#1629), a few flakes and several cobbles were also recovered from the unit, but they were not closely associated with the knife.

The button was collected from the surface of 20-30N/0-10W. A few pot sherds and flakes were scattered around the unit. One was a rim sherd from a Clearwater Lake Punctate pot (Vessel 2). In the same unit but approximately 6.5 meters east there was a concentration of sherds from one Clearwater Lake Punctate pot (Vessel 3).

The piece of brass was the only Historic artifact that was closely associated with prehistoric remains. It was recovered from 15-30S/15-30E Level 1 on top of a hearth, F1-73. Sherds from one Alexander Fabric-impressed pot (#10), eight Clearwater Lake Punctate vessels (#8, 11 to 17), several lithic tools including a Taltheilei point (#2156) and an untyped (#2157) projectile point and lithic debris were excavated in the vicinity. The artifact density was extremely high here. Unfortunately, there was severe destruction from the forest fire as well and the cultural remains were mixed.

VIII

SUMMARY AND CONCLUSIONS

Archaeological research in the Kame Hills Locality of Southern Indian Lake has contributed to the understanding of the prehistory of the region and to the application of excavation techniques in the Boreal Forest. The sites, with the exception of the Kame Hills Site, did not yield a large quantity of cultural remains and no unusual or outstanding artifacts were recovered. Many of the sites were extraordinarily large, but other large sites have been recorded in the region (Kelly 1975) and elsewhere in the Boreal Forest.

In 1972 a four part research strategy was formulated so that the sites and the locality could be investigated as fully as possible. The first step was a controlled surface collection of some of the sites. The artifacts collected would then be plotted on maps of the sites and tentative activity areas would be defined. The second step was the excavation of test pits in the tentative activity areas to determine the depositional history of the site and the extent of the cultural remains. At the third step, block excavations would be planned for some of the tentative activity areas to recover the total complement of data. Finally stripping excavations would be undertaken if it was necessary to remove large amounts of overburden to expose extensive areas of the site.

There were problems with the research strategy and it was modified several times. The changes made at the Isthmus Site are discussed in Chapter II and the procedure followed at the Kame Hills Site is outlined in additional reports (Dickson 1975, 1980). Here the concern is with the problems and the solutions.

Three major problems were encountered with the controlled surface collection. In the first place, the forest fire, which destroyed most of the dense boreal vegetation on the site and exposed abundant cultural remains, was uncontrolled. In some areas the moss was barely scorched and in other locations it was totally desiccated exposing cultural remains. Several factors such as the wind direction, the source of the fire, the density and nature of the vegetation and the condition of the surface would affect the combustion. In addition, the presence of artifacts in and under the moss may have influenced oxidation. Ceramics, in particular, were often exposed even though most of the area retained a thick mantle of moss. Second, extensive deadfall, surface litter and the regrowth of moss, trees and fireweed obscured the surface and it was possible to overlook specimens. Finally, although many artifacts were exposed by the fire, especially when compared to the normal collection from a beach or small test pit, the density of artifacts was very low. Thus, it was difficult to delimit high density locales that could be designated as tentative activity areas. Furthermore, a concentration of ceramics may appear as a high density area when in effect only one vessel is present. Therefore, care must be taken to define and eliminate biases which are inherent in the data.

Test pits provide information on the depositional history of the site and produce a small collection of cultural remains, but by themselves they are insufficient. At the Isthmus Site the test pits indicated that cultural remains were located in the moss and the upper 2-3 cm of sand beneath the moss. As a result, stripping excavations were undertaken and most of the cultural remains from the site were recovered. At the Kame Hills Site they indicated that artifacts were located in the sand beneath the moss. Thus,

stripping the site would produce a superficial sample. Instead, block excavations were conducted to open large areas and to sample the site from the surface to the base. At the Raspberry Site the test pits confirmed that most of the cultural remains were located on the surface and in the upper 5 cm of clay and that recent Historic items were intermingled with prehistoric artifacts. However, they did not provide any details on the size of the site or on activities carried out at the site. Finally, the limited test excavations at HJLo-1 posed more questions than they answered because they were done in isolation from other data. Cultural remains were not visible on the surface and only one of the excavated locations produced a satisfactory sample. Therefore, there is no data on site size or activity areas. The small sample suggests a single component site, but it cannot be checked.

The block excavations at the Kame Hills Site were very successful. The stratified random sample (Dickson 1975:5) provided a good cross-section of the site. Both horizontal and vertical distributions were sampled. The total range of variability in all classes of cultural items and the frequency representation of every variant in each class identified was determined. However, a broader sample was required to determine what cultural items clustered spatially with others. Therefore, a larger block was excavated and some clustering was observed (Dickson 1980).

The major problem with this approach is that it requires several people and takes a lot of time even on smaller sites. It is impractical when sites are covered with a living forest or if the subsoil is clay or some other material which can only be excavated with a trowel.

Finally, the stripping excavation can only be applied on certain types of sites. The Isthmus Site was an ideal example of the type of site that can be excavated in this manner in the Boreal Forest. However, much more control must be maintained. The site was excavated in 10-by-10 meter blocks and these were much too big. At the Kame Hills Site the large blocks were sub-divided into 2-by-2 meter units and for the most part these were satisfactory. However, at times even smaller units would have been desirable. Therefore, the size of the units, whether test pits, block excavations, stripping excavations or controlled surface collection units, should be very carefully considered because the size will affect the patterns that are obtained. Also, bear in mind that the smaller the units the longer it will require to excavate the site. In this case the sum of the parts is greater than the whole.

In addition to providing a large body of new and valuable data, these techniques also pose some interesting problems. For example, when a site is surface collected and test pits or trenches are excavated, it is assumed that only a portion of the cultural remains will be recovered. Thus, when a ceramic vessel is represented by a single rim sherd, the interpretation includes statements such as: "unfortunately" or "little could be determined" or "it suggests...", but when the same sherd is recovered from a completely excavated site or from the centre of a large excavated area, what does it mean? It could mean that the site has not been completely excavated or that the sherd was imported from another site or that the sherd has some special significance or any number of plausible explanations. Therefore, more emphasis is placed on the interpretation of individual artifacts and artifact associations.

This report stresses the discription, classification and association of the cultural remains from the sites in the Kame Hills Locality. Interpretation is limited because valid conclusions cannot be arrived at until more detailed analyses are undertaken. For example, an analysis of the lithic technology at Hilp-3 may distinguish Shield Archaic, Taltheilei and Terminal Woodland lithics. These could then be plotted and successive activity areas could be determined. The activity areas that can be identified at present (Dickson 1973) encompass several activities and include overlapping occupations. Likewise, if the ceramics can be differentiated, sites and portions of sites may be segregated.

The Kame Hills ceramic sample includes 200 Clearwater Lake Punctate vessels, eight Alexander Fabric-impressed vessels, one Blackduck pot and two Laurel pots. The Blackduck and Laurel pots, two of the Alexander Fabric-impressed vessels and 127 of the Clearwater Lake Punctate vessels were recovered from the Kame Hills Site. The ceramics from the other sites are associated with the Kame Hills Complex which dates from A.D. 850 to A.D. 1750 (Dickson 1980:150).

Lithic tools from these sites which are associated with the Kame Hills Complex include a large triangular point from the Raspberry Site and a drill and an adze from the Isthmus Site. A corner-notched projectile point and several of the bifaces from the latter site may also relate to the complex, but it is impossible to be certain at this level of analysis. However, 13 Type 1 hearths are assigned to the complex.

One feature was classified as Historic. It was associated with a recent fish camp which formerly occupied part of the Raspberry Site. The camp was destroyed in a fire in the early 1960's, but items such as bottle

caps, tin cans, pieces of phonograph records, tin foil and nails remained. Unfortunately, they were mixed with the prehistoric artifacts and it was impossible to separate the components.

Historic remains were also collected at the Isthmus Site, but they represented at least two periods. A percussion cap shotgun, a button, pipe bowl fragments and a knife suggested that a hunter visited the site in the latter half of the nineteenth century. He was probably hunting ducks in the small marsh at the south end of the site. More recently another hunter visited the site, but he may not have left in the best of health. A modern shotgun with an exploded barrel was collected from the site. Neither of these occupations disturbed the prehistoric site. Most of the items were collected outside the limits of the prehistoric site as indicated by the distribution of ceramics (Fig. 4) and very few of the ceramic vessels were scattered across the site.

The other sites in the locality were associated with the Kame Hills Complex and several had indications of recent activity. Only the Isthmus Site like the Kame Hills Site had earlier components that were identified. A single Taltheilei projectile point and two Shield Archaic projectile points were recovered. The former was a late Middle Taltheilei style similar to specimens from Hilp-1 (Dickson 1980: 93). Based upon the data that Gordon (1977: Table 1) compiled for the Barrenlands, this point should date between A.D. 500 and A.D. 900. The other points are late Shield Archaic styles which date from 1500 B.C. to 100 B.C. None of the other remains at the site can definitely be attributed to either of these occupations.

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APPENDIX I

SUMMARY OF FEATURES RECORDED AT

HiLp-3, HjLp-7 and HjLo-1

FEATURE SUMMARY

Feature Number	Definition	Location Unit(s)	Level	Depth Below Surface of Sand	Fill	Maximum Length (cm.)	Maximum Width (cm.)	Maximum Thickness (cm.)	Material Associated with Feature/ Unit	Comments
HLp-3 1-73	Hearth	15-50S 15-50E	2	Below moss	Discolored sand and burnt bone fragments	95	95	12	Sherds from 1 Alexander Fabric-impressed pot (#10), 8 Clearwater Lake Punctate vessels (#8, 11 to 17), lithic tools and debris and piece of brass	F9-73 was adjacent
HLp-3 2-73	Hearth	30-40S 20-50E	2	Below moss	Discolored sand and burnt bone fragments	95	60	2	Sherds from 5 Clearwater Lake Punctate vessels (pots #21, 22, 25, 34 and plate #19), lithic tools and debris	Ceramics were located north and east of hearth
HLp-3 3-73	Hearth	40-50S 20-30E	2	Below moss	Discolored sand, charcoal and burnt bone fragments	110	74	9	Sherds from 3 Clearwater Lake Punctate vessels (cups #25, 24 and plate #33) and lithic debris	Hearth was not defined in 1972 but was visible in 1973
HLp-3 4-73	Hearth	40-50S 30-40E	2	Below moss	Discolored sand and burnt bone fragments	60	38	5	Sherds from Clearwater Lake Punctate cup (#27), projectile point (#2814) and lithic debris	F5-73 was 4 meters SE
HLp-3 5-73	Hearth	40-50S 30-40E	2	Below moss	Discolored sand and burnt bone fragments	80	70	9	Sherds from 3 Clearwater Lake Punctate vessels (pots #25, 26, and plate #28) and lithic debris	F4-73 was 4 meters NW
HLp-3 6-73	Hearth	50-60S 30-40E	2	Below moss	Discolored sand and burnt bone fragments	40	35	5	Sherds from 3 Clearwater Lake Punctate vessels (plates #28, 31 and pot #25), 1 Alexander Fabric-impressed plate (#29) and lithic debris	F5-73 was 5 meters NE and F7-73 was 6 meters SE

FEATURE SUMMARY

Feature Number	Definition	Location Unit(s)	Depth Below Surface of Sand	Fill	Maximum Length (cm.)	Maximum Width (cm.)	Maximum Thickness (cm.)	Material Associated with Feature/ Unit	Comments
Hilp-3 8-73	Hearth	50-60S 30-40E	Below moss	Discolored sand and burnt bone fragments	66	47	3	Sherds from 3 Clearwater Lake Punctate vessels (plates #28, 31, and pot #25, 1 Alexander Fabric-impressed plate (#29) and lithic debris	F6-73 was 6 meters NW
Hilp-3 8-73	Hearth	0-15 S 20-30W	Below moss	Discolored sand and burnt bone fragments	40	30	?	Sherds from Clearwater Lake Punctate pot (#5), lithic tools and debris	Hearth was not very well defined and was not excavated
Hilp-3 9-73	Hearth	15-30S 15-30E	Below moss	Discolored sand and burnt bone fragments	40	40	?	Sherds from 1 Alexander Fabric-impressed pot (#10), 8 Clearwater Lake Punctate vessels (#8, 11 to 17) lithic tools and debris	Poorly defined, not visible in 1973 and not excavated
Hilp-3 1-75	Hearth	8, 10 & 21	Below moss	Discolored clay, charcoal and burnt bone fragments	72	65	4	Sherds from Clearwater Lake Punctate pot (#19), lithic debris, 2 pieces of aluminum foil, and 1 bottle cap	Part of hearth was capped with 3 cm of clay
Hilp-7 2-75	Hearth	7, 9 15 & 16	Below moss	Discolored clay, ash humus, and burnt bone fragments	107	77	6	Sherds from 7 Clearwater Lake Punctate vessels (pots #1, 4, 11, 16 and plates #12, 13 and 14) and several historic items	F4-75 was located 20 cm west
Hilp-7 3-75	Hearth	18 & 22	Below moss	Discolored clay, charcoal and burnt bone fragments	100	75	3	Sherds from 3 Clearwater Lake Punctate vessels (cups #17, 21 and bowl #18), retouched flake and lithic debris	Hearth was thin and poorly defined

FEATURE SUMMARY

Feature Number	Definition	Location Unit(s)	Depth Below Surface of Sand	Fill	Maximum Length (cm.)	Maximum Width (cm.)	Maximum Thickness (cm.)	Material Associated with Feature/ Unit	Comments
HjLo-7 1-75	Hearth	15 & 16	Below moss	Discolored clay, humus, charcoal and burnt bone fragments	180	53	8	Sherds from 7 Clearwater Lake Punctate vessels (pots #1, 4, 11, 16 and plates #12, 13, 14), retouched flake, lithic debris and historic items	F2-75 was 20 cm east Western portion of hearth unexcavated
HjLo-1 1-75	Hearth	4	Below moss	Ash, humus, charcoal, discolored sand and burnt bone	135	135	11	Sherds from 4 Clearwater Lake Punctate vessels (plates #1-3 and pot #4), 1 Alexander Fabric-impressed plate (#5) and lithic debris	

APPENDIX II

SUMMARY OF CLEARWATER LAKE PUNCTATE
VESSELS FROM SITES IN THE KAME HILLS LOCALITY

Summary of Clearwater Lake Punctate Vessels from
Sites in the Kame Hills Locality

VESSEL NO.	VESSEL FORM	NO. ROWS PUNCTATE	INTERIOR SURFACE FINISH	INTERIOR SURFACE FINISH	DECORATION	NOTE	CLASSIFICATION
HLp-3 1	Pot	2	Smoothed fabric-impressions	Smoothed interior	Piceated Lip	None	H
HLp-3 2	Pot ?	1	Very smoothed fabric-impressions	Smoothed interior	None	Basic	A
HLp-3 3	Pot	2	Obiterated fabric-impressions	Fabric-impressed interior	Cord-impressed lip	None	E
HLp-3 5	Pot	1	Very smoothed fabric-impressions	Smoothed interior	Piceated lip	None	C
HLp-3 6	Pot	2	Very smoothed fabric-impressions	Smoothed interior	None	None	L
HLp-3 7	Plate	1	Obiterated fabric-impressions	Smoothed interior	Piceated interior lip	None	C
HLp-3 8	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
HLp-3 9	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
HLp-3 11	Cup ?	1	Obiterated fabric-impressions	Fabric-impressed interior rim	None	None	B
HLp-3 12	Plate	1	Smoothed	Smoothed interior	None	Basic ?	A
HLp-3 13	Plate	1	Smoothed	Fabric-impressed interior rim	None	None	B
HLp-3 14	Pot	1	Smoothed	Smoothed interior	None	Basic ?	A
HLp-3 15	Pot	1	Smoothed	Smoothed interior	Incised Lip	None	C
HLp-3 16	Plate	1	Smoothed	Smoothed interior	Incised Lip	None	C

Summary of Clearwater Lake Punctate Vessels from
Sites in the Kame Hills Locality

VESSEL NO.	VESSEL FORM	NO. RWS PUNCTURES	INTERIOR SURFACE FINISH	INTERIOR SURFACE FINISH	DECORATION	MODE	COMBINATION
Hilp-3 17	Plate	1	Smoothed	Smoothed interior	Piccate interior rim	None	C
Hilp-3 18	Plate	1	Very smoothed fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 19	Plate ?	0	Smoothed	Smoothed interior	Punctate interior rim	None	Uncl.
Hilp-3 20	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 21	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 22	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 23	Cup	2	Obliterated fabric-impressions	Smoothed interior	Incised lip	None	H
Hilp-3 24	Cup	2	Obliterated fabric-impressions	Smoothed interior	None	None	L
Hilp-3 25	Pot	2	Very smoothed fabric-impressions	Fabric-impressed interior	Cord-impressed lip	None	E
Hilp-3 26	Pot	1	Obliterated fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 28	Plate	1	Smoothed and exfoliated	Smoothed interior	None	Basic ?	A
Hilp-3 30	Pot ?	1 ?	Very smoothed fabric-impressions	Smoothed interior	None	Basic	A
Hilp-3 31	Plate	1	Obliterated fabric-impressions	Fabric-impressed interior rim	None	None	B
Hilp-3 32	Plate	1	Exfoliated	Fabric-impressed interior rim and pitted (?) interior surface.	Piccate interior rim and punctate interior	None	I

Summary of Clearwater Lake Punctate Vessels from
Sites in the Kame Hills Locality

VESSEL NO.	VESSEL FORM	NO. RWS PUNCTURES	EXTERIOR SURFACE FINISH	INTERIOR SURFACE FINISH	DECORATION	MODE	ORIGINATOR
HjLp-3 ₅₃	Plate	1	Obliterated fabric-impressions	Smoothed interior	None	Basic	A
HjLp-3 ₅₄	Pot	1	Obliterated fabric-impressions	Smoothed interior	None	Basic	A
HjLp-3 ₅₅	Pot	1	Obliterated fabric-impressions	Smoothed interior	Punctated lip	12	C
HjLp-3 ₅₆	Pot	1	Very smoothed fabric-impressions	Fabric-impressed interior	GM01's on interior rim	None	D
HjLp-3 ₅₇	Plate	1	Obliterated fabric-impressions	Fabric-impressed interior rim	Punctated lip	12	I
HjLp-3 ₅₈	Plate	1	Very smoothed fabric-impressions	Fabric-impressed interior rim	GM01's on interior lip edge	None	I
HjLp-3 ₅₉	Plate	1	Very smoothed fabric-impressions	Smoothed interior	GM01's on interior rim	None	C
HjLp-3 ₆₀	Plate	1	Smoothed fabric-impressions	Smoothed interior	GM01's on interior rim and punctated interior	None	C
HjLp-7 ₁	Pot	2	Very smoothed fabric-impressions	Fabric-impressed interior with band between fabric-impressions	Piceated lip	None	E
HjLp-7 ₂	Pot	2	Obliterated fabric-impressions	Fabric-impressed interior	Cord-impressed lip	None	E
HjLp-7 ₃	Pot	2	Obliterated fabric-impressions	Fabric-impressed interior	None	None	K
HjLp-7 ₄	Pot	1	Very smoothed fabric-impressions	Fabric-impressed interior	GM01's on interior rim	None	D
HjLp-7 ₅	Plate	1	Obliterated fabric-impressions	Smoothed interior	Cord-impressed lip	None	C
HjLp-7 ₆	Plate	2	Obliterated fabric-impressions	Fabric-impressed interior	Cord-impressed lip	None	E

Summary of Clearwater Lake Punctate Vessels from
Sites in the Kame Hills Locality

VESSEL NO.	VESSEL FORM	NO. RIMS PUNCTATE	INTERIOR SURFACE FINISH	INTERIOR SURFACE FINISH	DECORATION	MODE	CLASSIFICATION
HjLp-7 7	Plate	1	Obliterated fabric-impressions	Fabric-impressed interior rim	None	None	B
HjLp-7 8	Pot	1	Obliterated fabric-impressions	Fabric-impressed interior	None	None	F
HjLp-7 9	Pot	1	Obliterated fabric-impressions	Fabric-impressed interior	None	None	F
HjLp-7 10	Plate	1	Obliterated fabric-impressions	Fabric-impressed interior	None	None	F
HjLp-7 11	Pot	1	Smoothed fabric-impressions	Fabric-impressed interior	Notched lip	None	D
HjLp-7 12	Plate	2	Obliterated fabric-impressions	Smoothed interior	Cord-impressed Lip	None	H
HjLp-7 13	Plate	1	Obliterated fabric-impressions	Smoothed interior	Piccateated interior rim	None	C
HjLp-7 14	Plate	1	Obliterated fabric-impressions	Fabric-impressed interior rim	None	None	B
HjLp-7 15	Plate	1	Exfoliated	Smoothed interior	Cord-impressed Lip	None	C
HjLp-7 16	Pot	1	Obliterated fabric-impressions	Smoothed interior	None	Basic	A
HjLp-7 17	Cup ?	1	Smoothed	Irregular interior	None	None	A
HjLp-7 18	Cup	1	Smoothed	Smoothed interior	None	None	A
HjLp-7 19	Pot	1	Very smoothed fabric-impressions	Smoothed interior	None	Basic	A
HjLp-7 20	Pot	1 ?	Obliterated fabric-impressions	Smoothed interior ?	None	Basic	A

Summary of Clearwater Lake Punctate Vessels from
Sites in the Kame Hills Locality

VESSEL NO.	VESSEL FORM	NO. RWS PUNCTURES	EXTERIOR SURFACE FINISH	INTERIOR SURFACE FINISH	DECORATION	DATE	COMBINATION
HjLp-7 ₂₁	Bowl	1	Smoothed	Smoothed interior ?	None	None	A
HjLp-1 ₁	Plate	1	Smoothed fabric-impressions	Smoothed interior	Cord-impressed Lip	None	C
HjLp-1 ₂	Plate	1	Obliterated fabric-impressions	Smoothed interior	Piccateo interior rim	None	C
HjLp-1 ₃	Plate	1	Very smoothed fabric-impressions	Smoothed interior	QML's on interior rim	None	C
HjLp-1 ₄	Pot	1	Smoothed fabric-impressions	Fabric-impressed interior	Piccateo interior rim	None	D
HjLp-4 ₁	Plate	1	Very smoothed fabric-impressions	Smoothed interior	Cord-impressed Lip	None	C
HjLp-4 ₂	Pot	1	Exfoliated	Smoothed interior	None	Basic	A
HjLp-4 ₃	Plate	1	Obliterated fabric-impressions	Smoothed interior	Cord-impressed lip	None	C
HjLp-5 ₁	Pot	1	Smoothed fabric-impressions	Fabric-impressed interior rim	None	None	B
HjLp-5 ₂	Pot	2	Smoothed fabric-impressions	Fabric-impressed interior ?	Cord-impressed lip	None	E
HjLp-6 ₁	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
HjLp-6 ₂	Plate	1	Obliterated fabric-impressions	Smoothed interior	Cord-impressed interior lip	None	C
HjLp-6 ₃	Plate	1	Very smoothed fabric-impressions	Fabric-impressed interior rim	None	None	B
HjLp-7 ₁	Pot	1	Very smoothed fabric-impressions	Smoothed interior	None	Basic	A
HjLp-7 ₂	Pot	1	Smoothed fabric-impressions	Smoothed interior	None	Basic	A
HjLp-8 ₁	Pot	1	Very smoothed fabric-impressions	Fabric-impressed interior	None	None	F
HjLp-8 ₂	Pot	1	Exfoliated	Smoothed interior ?	QML's on interior rim	None	C

APPENDIX III

Projectile Point Attribute Definitions

Unit: the number assigned to the excavation unit or test pit.

Level: The number of the level in which the specimen was located. The standardized levels for the site were surface (0), 1 (moss and moss-sand interface), 2 (0-10 cm into sand), 3 (10-20 cm into sand), 4 (20-25 cm into sand) and 5 (25-30 cm into sand).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit. "B.M." means below moss.

Condition: refers to whether the specimen is complete or incomplete.

Type: refers to whether the specimen is notched, stemmed, triangular or lanceolate.

Length: the maximum length of the specimen in mm taken along the longitudinal axis, between the tip and the basal edge.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis along the transverse axis.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Base Width: the distance in mm between the two defining points of junction of the base.

Minimum Base Length: the distance in mm between the point where the longitudinal axis crosses a line connecting the narrowest points of the haft element (i.e. width at haft) and the most distal point or points (line drawn) of the base element taken on the longitudinal axis of the specimen.

Maximum Base Length: the distance in mm between the point where the longitudinal axis crosses a line connecting the narrowest points of the haft element and the most proximal point or points of the base element taken on the longitudinal axis of the specimen.

Tip Angle: in degrees, the angle defined by convergence of the lateral margins of the blade toward the most distal point of the specimen.

Width at Haft: the distance in mm between the two opposing and most medial points of the haft element.

Notch Depth: the distance in mm from that portion of the notch closest to the longitudinal axis (medial point) to the midpoint of a line connecting the distal and proximal points of juncture of the haft element (i.e. notch length). Measured on the left and right notches.

Notch Length: the distance in mm between the proximal and distal points of juncture of the haft element. Measured on the left and right notches.

Raw Material: the lithic material used.

Blank Orientation: refers to the location of the flake blank platform in relation to the finished artifact. It may be proximal, distal, lateral, oblique or obscured (See Binford, 1963: 208-210).

Blade Outline: the gross geometric shape of the blade element.

1. Triangular: the lateral edges are straight and the widest portion of the blade is between the proximal defining points.
2. Excurvate: the lateral edges are convex and the widest portion of the blade is not between the proximal defining points.
3. Ovate: the lateral edges are convex and the widest portion of the blade is between the proximal defining points.
4. Parallel-ovate: the edges describe convex lines diverging from the tip to intersect straight parallel lines along the lateral edge. The straight lines then pass through the proximal defining points of the blade. The widest part of the blade is between the parallel straight lines.
5. Indeterminate: the shape cannot be determined due to breakage. (see Binford, 1963: 200-201).

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end, across the transverse axis. The dorsal surface outline is stated first.

Blade Symmetry: the lateral edges of the blade are either geometrically complimentary (symmetrical) or they are not geometrically complementary (assymetric).

Retouch: the specimen is either flaked on both faces (bifacial) or on one face (unifacial).

Reworking: refers to the reshaping of the blade either as a function of breakage or remodifications into another style of implement.

Lateral Edge Configuration: refers to the form of the lateral edges.

1. Serrated: chips are removed so as to produce regular notches in the lateral edge of the specimen.
2. Even: chips are removed so as to produce a regular smooth definition of the lateral edge.
3. Irregular: lateral edge lacks a clear even definition. Many scar notches occurring in a nonsymmetrical pattern. (Binford 1963: 207).

Base Edge Configuration: refers to the form of the basal edge.

1. Even: chips are removed so as to produce a regular smooth definition of the basal edge.
2. Irregular: basal edge lacks a clear even definition - many scar notches occurring in nonsymmetrical patterns. (Binford 1963: 211).

Haft Edge Configuration: refers to presence or absence of grinding inside the haft element.

Base Outline: the shape of the most proximal margin of the specimen.

Base Symmetry: refers to the orientation of the base in relation to the longitudinal axis.

1. Transverse: a cord constructed between the defining points of the base would cross the longitudinal axis forming roughly a ninety degree angle.
2. Oblique: a cord constructed between the defining points of the base would cross the longitudinal axis forming complementary angles of roughly 112° and 68° .
3. Suboblique: a cord constructed between the defining points of the base would cross the longitudinal axis forming complementary angles of roughly 100° and 80° . (Binford 1963: 208).

APPENDIX IV

HiLp-3 AND HJLp-7 BIFACES

A. Biface Attribute Definitions

B. Metric and Non-Metric Attributes of Sample

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the sites were surface (0), 1 (moss and moss-sand interface), 2 (0-10 cm), 3 (10-20 cm), 4 (20-25 cm) and 5 (25-30 cm).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit.

Condition: refers to whether the specimen is complete or incomplete.

Type: the bifaces have been classed in one of three categories:

1. Blank: a preliminary stage in the manufacture of a biface characterized by rough flaking and the lack of a definitive shape.
 2. Preform: a shaped artifact blank, needing further modification, which has the basic shape or outline of the finished product.
 3. Finished Biface: a completed artifact which has a definite shape and requires no further modification to be completed.
- Note: Tools may be used at any stage in this process.

Length: the maximum length of the specimen in mm taken along the longitudinal axes.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis along the transverse axes.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Raw Material: the lithic material used.

Blank Type: refers to the nature of the original flake blank.

1. Decortication Flake: the specimen retains some of the flake blank cortex which indicates that the flake blank was removed from the outer portion of the nodule.
2. Non-decortication Flake: no cortex is present on the flake blank and all indications are that the cortex was removed before the flake blank was removed.
3. Core: the specimen exhibits the characteristics of a core rather than those of a flake.
4. Obscured: the flake blank has been modified obscuring the characteristics of the flake blank.
5. Cobble: the flake blank is a cobble rather than a flake or a core.

Outline: the gross geometric shape of the specimen.

1. Triangular: a three sided figure having three angles.
2. Ovate: the outline resembles the shape of an egg.
3. Lanceolate: a spear-like outline.
4. Rhomboid: a lozenge shape where all sides are relatively equal but with no right angles.

5. Rectangular: all angles are approximately 90°.
6. Trapezoidal: a four sided figure with two parallel sides of unequal length.
7. Irregular: the outline does not resemble any definable shape.

Longitudinal Sections: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axis. The dorsal surface outline is stated first.

Location of Retouch: the edges upon which fine secondary flaking is located, i.e., distal, proximal, left and right lateral. If the striking platform can be determined, the specimen is orientated with it at the top and the dorsal face outward, otherwise the specimen is orientated along the long axis.

Mode of Retouch: refers to whether the specimen has been chipped, ground or both.

Extent of Retouch: refers to the proportion of the specimen that was retouched.

1. Marginal: the specimen was retouched along the margins only.
2. Rough: the specimen was retouched over all or most of both faces, but the flakes removed were large, percussion flakes or alternately, portions of both faces were ground or ground and chipped.
3. Finished: the specimen was retouched overall or most of both faces with small percussion or pressure flaking.

Edge Profile: refers to the shape of the cross-section of the working edge. It is either acute ($\angle$), square ($\sqcap$) or round ($\smile$).

Edge Plan View: refers to the outline of the edges viewed from the dorsal or ventral face.

1. Straight: the edge has a straight even outline.
2. Serrated: the edge has a notched or saw-like outline.
3. Scalloped: the edge forms a series of rounded projections.
4. Broken: the flaked edge is discontinuous.
5. Irregular: the edge has an irregular outline.

Transverse Edge Configuration: refers to the form of the edge when viewed laterally.

1. Straight: the edge forms a straight line.
2. Sinuous: the edge is wavy and may be grossly or slightly so.
3. Curvate: the edge is curved.
4. Broken: the flaked edge is discontinuous.
5. Irregular: the edge has an irregular outline.

Hilp-3 and Hilp-7 Bifaces

Site	Cat. No.	Unit	Level	Condition	Type	Length	Width	Thickness	Weight	Raw Material	Blank Type
Hilp-3	97	30-40S 0-10E	0	Complete	Finished	52.1	43.7	13.1	34.0	Quartz	Obscured
Hilp-3	105	10-20S 10-20W	0	Complete	Finished	51.1	27.6	8.4	13.6	Chert	Decorification Flake
Hilp-3	130 131	30-40S 0-10W	0	Incomplete	Finished	46.5	37.6	10.4	15.2	Chert	Obscured
Hilp-3	089	0-10S 10-20W	0	Incomplete	Finished	23.5	27.6	7.9	5.1	Chert	Obscured
Hilp-3	713	0-10S 20-30W	0	Incomplete	Finished	36.1	25.7	7.7	7.7	Chert	Decorification Flake
Hilp-3	1415	0-10S 0-10W	0	Complete	Preform	33.7	20.7	6.2	5.4	Chert	Core
Hilp-3	1435	0-10S 10-20W	0	Complete	Preform	54.0	37.2	9.7	14.4	Chert	Decorification Flake
Hilp-3	1707	10-20S 10-20W	0	Incomplete	Preform	51.1	28.3	8.3	7.5	Quartzite	Obscured
Hilp-3	2126	30-40S 10-20W	0	Incomplete	Preform	25.4	26.5	8.9	6.1	Quartz	Obscured
Hilp-3	2127	30-40S 10-20E	0	Complete	Preform	33.5	43.7	12.4	20.0	Chert	Obscured
Hilp-3	2321	15-30S 0-15E	1	Complete	Blank	77.1	76.9	21.4	163.9	Basalt	Decorification Flake
Hilp-3	2625	30-40S 20-30E	0	Complete	Blank	82.1	50.6	21.5	113.3	Siltstone	Core
Hilp-3	3008	30-60S 40-50E	1	Incomplete	Finished	12.3	20.7	7.1	1.1	Quartzite	N.A.
Hilp-7	5		0	Incomplete	Preform	51.4	30.1	25.1	16.0	Quartz	Obscured

Hilp-3 and Hilp-7 Bifaces (continued)

Outline	Sections		Retouch Location	Mode	Extent	Edge Configuration	
	Longitudinal	Transverse				Profile	Plan Transverse
Ovate	Convex-Concave	Convex-Concave	Distal	Chipped	Finished	Acute	Scalloped Curvate
Trapezoidal	Concave-Convex	Triangular Convex	Proximal L.L., R.L.	Chipped	Finished	Round	Scalloped Sinuous
N.A.	Biconvex	Biconvex	All edges	Chipped	Finished	Acute	Scalloped Sinuous
N.A.	N.A.	Convex-Irregular	All edges	Chipped	Finished	Acute	Serrated N.A.
Irregular	Biconvex	Convex-Concave	L.L. Distal	Chipped	Marginal	Acute	Scalloped Sinuous
Irregular	Biconvex	Biconvex	R.L.	Chipped	Marginal	Square	Broken Sinuous
Irregular	Irregular	Irregular	R.L.	Chipped	Marginal	Acute	Scalloped Sinuous
N.A.	N.A.	Biconvex	All edges	Chipped	Rough	Square	Scalloped Sinuous
N.A.	N.A.	Biconvex	All edges	Chipped	Rough	Square	Scalloped Sinuous
Irregular	Irregular	Biconvex	All edges	Chipped	Rough	Acute	Irregular Irregular
Irregular	Biconvex	Biconvex	L.L., R.L.	Chipped	Rough	Acute	Scalloped Sinuous
Trapezoidal	Irregular-Plano	Convex-Plano	L.L., R.L.	Chipped	Marginal	N.A.	N.A. N.A.
N.A.	N.A.	Biconvex	All edges	Chipped	Finished	Square	N.A. N.A.
Trapezoidal	Biconvex	Biconvex		Chipped	Rough	Square	Scalloped Sinuous

APPENDIX V

HiLp-3, HJLp-7 and HiLp-5 Scrapers

A. Scraper Attribute Definitions

B. Metric and Non-metric Attributes of Sample

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. Levels are standardized across the site as surface (0), level 1 (moss and moss-sand interface), level 2 (0-10 cm into sand), level 3 (10-20 cm into sand), level 4 (20-25 cm into sand) and level 5 (25-30 cm into sand).

Depth: the actual measured depth in centimeters of the specimen below the surface of the sand within the unit. B.M. means "below moss".

Condition: refers to whether the specimen is complete or incomplete.

Type: refers to the placement of retouch on the specimen.

1. End: the primary retouched working edge is positioned transversely on the specimen. Retouch may be present or absent on the lateral edges.
2. Side: the primary retouched working edge is positioned on the lateral areas of the specimen.

Raw Material: the lithic material used.

Outline: the gross geometrical shape of the specimen.

1. Triangular: a three-sided figure having three angles.
2. Ovate: the outline resembles the shape of an egg.
3. Sectorial: a figure that is bounded by two radii and the included arc of a circle.
4. Lamellar: a blade-like outline where edges are parallel or sub-parallel and the length is minimally twice the width.
5. Reniform: the outline is kidney-shaped.
6. Crescentic: the outline is crescent-shaped.
7. Rhomboid: a lozenge shape where all sides are relatively equal but with no right angles.
8. Rectangular: all angles are approximately 90°.
9. Trapezoidal: a four-sided figure with two parallel sides of unequal length.
10. Irregular: the outline does not resemble any definable shape.

Location of Retouch: the edges upon which fine, secondary flaking is located, i.e., distal, proximal, and left and right lateral when the flake is oriented with the striking platform at the top and the dorsal face outward.

Cortex: the presence or absence of the natural outer covering of the nodule from which the flake blank was struck. Presence of cortex indicates a primary flake and absence indicates a secondary flake.

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis. The dorsal surface outline is stated first.

1. Plano-convex: specimens exhibiting a combination of a plane and convex outline.
2. Concave-convex: specimens with a concave and convex outline combination.
3. Biconvex: specimens having both surfaces convex.
4. Biplano: specimens having both surfaces plane in outline.

5. Irregular: specimens having an outline which does not correspond to any distinct geometrical form.
6. Plano-concave: specimens exhibiting a plane and concave outline combination.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axis. The dorsal surface outline is stated first. The variations noted are defined above.

Edge Profile: the shape of the cross-section of the working edge.

1. Acute: the angle between the ventral (or rarely dorsal) surface and the flaked edge is less than 90° .
2. Square: the angle between the ventral surface and the flaked edge is approximately 90° .
3. Round: the edge approximates one half an ellipse. An edge may assume this conformation due either to attrition or polishing (Del Bene 19:25).

Length: the maximum length in mm of the specimen taken along the longitudinal axis, i.e., the median line drawn from the point of percussion.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis along the transverse axis.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Working Edge Width: the maximum width in mm of the retouched area on the specimen, i.e., the chord of the curved working edge.

Working Edge Length: the maximum distance in mm perpendicular between the working edge and the chord of the working edge, i.e., a measure of convexity or concavity.

Working Edge Angle: the angle formed by the plane of the working edge and the plane of the ventral surface of the flake.

Beta Angle: the angle formed by the plane of the striking platform and the plane of the ventral surface of the flake.

Weight: the weight of the specimen in grams.

Hilp-3, Hilp-7 and Hilp-5 Scrapers

Cat. No.	Unit	Level	Condition	Type	Material	Outline	Location of Retention	Cortex	Longitudinal Section
Hilp-5 14	15-50S 15-50E	0	Complete	Side	Chert	Irregular	L.L.	Present	Biplano
Hilp-5 80	40-50S 30-40E	0	Complete	End	Chert	Ovale	Distal R.L.	Absent	Convex-Concave
Hilp-5 22	0-10S 20-30E	0	Complete	End	Chert	Rhomboid	Distal	Absent	Convex-Concave
Hilp-5 681	0-10S 10-20E	0	Complete	End	Quartz	Irregular	L.L.	Present	Irregular-Concave
Hilp-5 99	15-50S 15-30E	1	Complete	End	Chert	Irregular	Distal R.L.	Absent	Irregular-Concave
Hilp-5 998	15-50S 15-50E	1	Complete	End	Chert	Irregular	Distal L.L.	Present	Plano-Convex
Hilp-5 1473	0-10N 20-50E	0	Complete	End	Quartz	Irregular	Distal L.L.	Absent	Convex-Concave
Hilp-5 1709	10-20S 10-20E	0	Complete	Side	Chert	Irregular	L.L. R.L.	Absent	Convex-Concave
Hilp-5 1865	10-20S 10-20E	1	Complete	End	Chert	Sectorial	Distal R.L.	Absent	Plano-Convex
Hilp-5 1869	10-20S 10-20E	1	Complete	End	Chert	Irregular	Distal	Absent	Convex-Concave
Hilp-5 1984	20-50S 0-10E	0	Incomplete	Side	Chert	Trapezoidal	Distal L.L.	Absent	N.A.
Hilp-5 2074	0-15S 0-15E	0	Incomplete	End	Chert	N.A.	R.L. Distal	Absent	N.A.
Hilp-5 2165	0-15S 40-50E	1	Incomplete	End	Quartz	N.A.	N.A.	N.A.	N.A.
Hilp-5 3060	20-60S 40-50E	1	Complete	End	Chert	Irregular	Distal	Present	Irregular-Concave
Hilp-5 3061	30-60S 40-50E	1	Complete	End	Chert	Rhomboid	R.L. Distal	Present	Concave-Convex
Hilp-5 264		0	Complete	End	Chert	Sectorial	Distal	Present	Irregular-Concave
Hilp-5 1, 5		0	Incomplete	Side	Quartzite	Trapezoidal	L.L. R.L.	Present	Convex-Concave

HiLp-3, HiLp-7 and HiLp-5 Scrapers (continued)

Transverse section	Base profile	Length	Width	Thickness	Working Edge width	Working Length	Working Edge Angle	Beta Angle	Weight
Biplano	Square	25.8	13.8	4.8	12.0	0.8	4.0°	N.A.	1.9
Biconvex	Square	48.6	29.5	6.1	24.7	7.6	80°	95°	8.3
Biconvex	Acute	9.4	8.7	2.4	7.6	0.1	65°	N.A.	0.1
Irregular-Concave	Square	55.5	32.4	15.9	51.1	4.6	67.8°	N.A.	17.4
Irregular-Convex	Acute	55.5	52.2	9.9	21.0	5.2	22.5°	115°	15.0
Plano-Convex	Square	45.7	52.0	10.7	51.0	4.2	76.5°	N.A.	14.2
Triangular-Convex	Square	30.8	19.0	11.2	17.6	5.1	82.3°	101°	7.6
Triangular-Convex	Acute	51.1	17.6	5.9	15.3	1.8	69°	105°	2.0
Biconvex	Square	17.7	18.0	5.0	D. 18.2 R. 14.9	D. 3.1 R. 1.4	D. 76.8° R. 77.0°	101°	1.8
Convex-Concave	Square	50.9	21.0	6.5	19.8	4.1	77°	N.A.	2.9
Convex-Concave	Square	21.0	25.0	9.4	N.A.	N.A.	N.A.	N.A.	5.0
N.A.	Square	23.5	15.5	12.0	N.A.	N.A.	N.A.	N.A.	4.9
N.A.	Acute	7.7	20.5	5.8	N.A.	N.A.	65.5°	N.A.	0.2
Irregular-Convex	Square	26.2	52.2	8.0	24.8	2.6	77.0°	N.A.	6.2
Biconvex	Square	18.1	16.5	4.1	R. 15.0 L. 14.1	R. 1.6 L. 1.2	R. 79.0° L. 76.0°	110°	1.2
Triangular-Convex	Acute	28.1	24.0	7.5	24.2	6.6	61.5°	N.A.	5.9
Irregular-Convex	Square	45.9	25.6	7.1	40.5	5.0	75.4°	112°	7.1

APPENDIX VI

HiLp-3, HJLp-7, HiLp-5 and HJLp-8 Retouched Flakes

A. Retouched Flake Attribute Definitions

B. Metric and Non-Metric Attributes of Sample

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the site were surface (0), level 1 (moss and moss-sand interface), level 2 (0-10 cm), level 3 (10-20 cm), level 4 (20-25 cm) and level 5 (25-30 cm).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit.

Condition: refers to whether the specimen is complete or incomplete.

Raw Material: the lithic material used.

Overall Outline: the gross geometrical shape of the specimen.

1. Triangular: a three-sided figure having three angles.
2. Ovate: the outline resembles the shape of an egg.
3. Sectorial: a figure that is bounded by two radii and the included arc of a circle.
4. Lamellar: a blade-like outline where edges are parallel or sub-parallel and the length is minimally twice the width.
5. Reniform: the outline is kidney-shaped.
6. Rhomboid: a lozenge shape where all sides are relatively equal, but with no right angles.
7. Rectangular: all angles are approximately 90°.
8. Trapezoidal: a four sided figure with two parallel sides of unequal length.
9. Irregular: the outline does not resemble any definable shape.

Location of Retouch: the edges upon which flaking is located, i.e. distal, proximal, left and right lateral when the flake is orientated with the striking platform at the top and the dorsal face outward.

Cortex: the presence or absence of the natural outer covering of the nodule from which the flake was struck. Presence of cortex indicates a primary flake and absence indicates a secondary flake.

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axis. The dorsal surface outline is stated first.

Edge Profile: the shape of the cross-section of the working edge, either acute, square or round.

Length: the length in mm of the specimen taken along the longitudinal axis, i.e. the median line drawn from the point of percussion.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

HjLp-5, HjLp-7, HjLp-5 and HjLp-8 Retouched Flakes

Cat. No.	Unit	Level	Condition	Raw Material	Overall Outline	Location of wear	Corona	Longitudinal Section	Transverse Section	Edge Profile	Length	Width	Thickness	Weight
HjLp-5 170	0-10S 20-50S	1	Incomplete	Chert	N.A.	N.A.	Absent	N.A.	N.A.	Acute	29.2	10.3	0.1	1.8
HjLp-5 503	0-10S 20-50S	1	Complete	Chert	Irregular	L.L. R.L.	Present	Irregular- Concave	Irregular- Convex	Acute	36.2	22.6	9.1	8.8
HjLp-5 503	0-10S 20-50S	1	Complete	Quartz	Irregular	R.L.	Absent	Biconvex	Biconvex	Acute	34.5	29.3	10.9	11.5
HjLp-5 674	10-20S 10-20S	0	Incomplete	Chert	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	8.9	6.5	3.8	0.1
HjLp-5 810	10-20S 10-20S	0	Incomplete	Chert	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	8.2	10.0	3.5	0.1
HjLp-5 815	10-20S 10-20S	0	Incomplete	Chert	Irregular	N.A.	Absent	N.A.	N.A.	Acute	23.7	9.7	3.7	0.6
HjLp-5 929	15-30S 15-30S	1	Complete	Chert	Rounded	L.L.	Absent	Concave- Convex	Concave- Convex	Acute	19.3	19.4	4.2	1.5
HjLp-5 1413	0-10S 10-20S	0	Complete	Chert	Trapezoidal	L.L. R.L.	Absent	Concave- Convex	Biconvex	Acute	20.6	13.7	4.8	1.4
HjLp-5 1438	0-10S 10-20S	0	Complete	Quartz	Irregular	R.L. Distal	Absent	Irregular	Triangular Convex	Acute	42.4	43.4	24.5	49.4
HjLp-5 1439	0-10S 10-20S	0	Complete	Quartz	Irregular	L.L.	Present	Convex-Plane	Biconvex	Acute	33.2	28.9	11.7	13.3
HjLp-5 1477	0-10S 20-50S	1	Complete	Quartz	Irregular	L.L. R.L.	Present	Irregular	Irregular	Square	37.0	21.2	10.4	8.7
HjLp-5 1495	0-10S 20-50S	1	Complete	Quartz	Quate	L.L.	Present	Convex- Irregular	Convex- Irregular	Square	30.4	26.3	9.4	6.3
HjLp-5 1497	0-10S 20-50S	1	Complete	Quartz	Irregular	R.L. Distal	Absent	Irregular	Triangular Convex	Square	34.8	19.9	10.1	7.5

Hilp-3, Hjp-7, Hilp-5 and Hjp-8 Retouched Flakes

Cat. No.	Unit	Level	Condition	Material	Overall outline	Location of wear	Cortex	Longitudinal Section	Transverse Section	Edge profile	Length	Width	Thickness	Weight
Hilp-3 1540	10-10X 20-30W	1	Incomplete	Chert	N.A.	N.A.	Present	N.A.	N.A.	Acute	15.7	14.2	0.0	0.9
Hilp-3 1599	10-10X 20-30W	1	Incomplete	Chert	Irregular	N.A.	Present	N.A.	N.A.	Acute	28.2	15.1	7.4	2.5
Hilp-3 1601	10-10X 20-30W	1	Complete	Chert	Irregular	R.L. L.L.	Present	Convex-Concave	Biconvex	Acute	28.8	16.5	2.8	1.1
Hilp-3 1602	10-10X 20-30W	1	Complete	Chert	Irregular	Distal L.L. R.L.	Absent	Convex-Concave	Triangular Convex	Square	51.8	19.5	5.7	2.0
Hilp-3 1603	10-10X 20-30W	1	Complete	Chert	Irregular	L.L.	Present	Biconvex	Irregular	Acute	19.2	14.7	4.0	1.1
Hilp-3 1755	10-20S 10-20W	1	Complete	Quartz	Irregular	L.L.	Present	Convex-Concave	Biconvex	Square	55.0	02.0	20.1	38.1
Hilp-3 1756	10-20S 10-20W	1	Complete	Chert	Irregular	Distal	Present	Irregular	Irregular	Square	52.9	22.5	10.2	9.5
Hilp-3 1757	10-20S 10-20W	1	Complete	Chert	Irregular	R.L.	Present	Irregular- Plano	Convex- Plano	Square	16.5	21.5	5.8	1.1
Hilp-3 1854	10-20S 10-20W	1	Complete	Siltstone	Irregular	R.L.	Present	Concave- Plano	Irregular- Convex	Square	18.2	24.7	3.0	1.5
Hilp-3 1861	10-20S 10-20W	1	Complete	Siltstone	Irregular	L.L. R.L.	Present	Convex- Concave	Biconvex	Square	77.4	44.2	0.5	10.9
Hilp-3 1862	10-20S 10-20W	1	Complete	Siltstone	Irregular	Distal R.L.	Absent	Convex- Concave	Triangular Convex	Square	27.5	30.0	5.1	5.9
Hilp-3 2070	10-20S 10-20W	1	Complete	Siltstone	Irregular	L.L. R.L.	Present	Irregular- Plano	Biconvex	Square	50.5	29.7	3.7	5.8
Hilp-3 2071	10-20S 10-20W	0	Complete	Chert	Irregular	Distal	Present	Irregular	Irregular	Acute	28.5	26.7	14.9	11.5

Hilp-3, Hilp-7, Hilp-5 and Hilp-8 Retouched Flakes

Cat. No.	Unit	Level	Condition	Material	Overall Shape	Location of Scar	Cortex	Longitudinal Section	Transverse Section	Flake Profile	Length	Width	Thickness	Weight
Hilp-3 2164	9-15S 15-50L	1	Complete	Quartz	Irregular	R.L. Distal	Absent	Irregular	Irregular	Square	27.0	24.9	12.7	10.5
Hilp-3 2358	9-15S 15-50L	1	Complete	Quartz	Irregular	R.L. R.L.	Absent	Plano-Convex	Irregular-Convex	Square	54.5	46.5	13.5	25.0
Hilp-3 2358	40-50S 40-50L	1	Complete	Chert	Irregular	R.L.	Present	Irregular	Irregular	Acute	28.0	35.4	8.2	9.0
Hilp-3 2652	8-40S 20-50L	0	Complete	Quartz	Ovate	R.L. Distal	Present	Irregular-Convex	Irregular-Convex	Square	26.2	14.9	11.1	4.8
Hilp-3 2669	50-60S 40-50L	1	Complete	Shale	Ovate	Distal R.L.	Present	Biconvex	Biconvex	Square	67.9	43.1	12.5	29.1
Hilp-3 4250	18-22N 18-22L	1	Incomplete	Chert	N.A.	R.L.	Absent	Convex-Concave	N.A.	Square	23.5	10.5	2.0	1.0
Hilp-3 4257	18-22N 18-22L	1	Complete	Chert	Trapezoidal	R.L.	Absent	Biconvex	Biconvex	Square	25.9	16.0	5.2	1.0
Hilp-3 48		0	Complete	Chert	Irregular	R.L.	Present	Irregular	Irregular	Round	32.2	12.5	8.5	5.2
Hilp-3 62		0	Incomplete	Chert	Sectorial	R.L.	Present	Convex-Concave	Planar-Convex	Round	33.9	22.5	8.0	4.1
Hilp-3 64	F.P. #18	2	Complete	Chert	Irregular	R.L.	Present	Irregular-Concave	Convex-Concave	Square	14.4	15.4	5.4	0.5
Hilp-3 69	F.P. #13	2	Complete	Chert	Lamellar	R.L.	Present	Irregular-Concave	Irregular	Acute	32.7	12.2	4.0	5.2
Hilp-3 62		0	Complete	Chert	Irregular	R.L.	Absent	Convex-Concave	Convex-Concave	Square	28.5	28.5	7.7	1.8
Hilp-3 39		0	Incomplete	Chert	N.A.	N.A.	Present	N.A.	N.A.	Square	14.5	26.0	9.9	5.2

APPENDIX VII

Hilp-3 and HjlP-7 Utilized Flakes

- A. Utilized Flake Attribute Definitions
- B. Metric and Non-metric Attributes of Sample

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the site were surface (0), level 1 (moss and moss-sand interface), level 2 (0-10 cm), level 3 (10-20 cm), level 4 (20-25 cm) and level 5 (25-30 cm).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit.

Condition: refers to whether the specimen is complete or incomplete.

Raw Material: the lithic material used.

Overall Outline: the gross geometrical shape of the specimen.

1. Triangular: a three-sided figure having three angles.
2. Ovate: the outline resembles the shape of an egg.
3. Crescentic: the outline is crescent-shaped.
4. Lamellar: a blade-like outline where edges are parallel or sub-parallel and the length is minimally twice the width.
5. Rhomboid: a lozenge shape where all sides are relatively equal, but with no right angles.
6. Rectangular: all angles are approximately 90°.
7. Irregular: the outline does not resemble any definable shape.

Location of Wear: the edges upon which wear is located, i.e. distal, proximal, left and right lateral when the flake is orientated with the striking platform at the top and the dorsal face outward.

Cortex: the presence or absence of the natural outer covering of the nodule from which the flake is struck. Presence of cortex indicates a primary flake and absence indicates a secondary flake.

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axes. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axis. The dorsal surface outline is stated first.

Edge Profile: the shape of the cross-section of the working edge, either acute, square or round.

Length: the length in mm of the specimen taken along the longitudinal axes, i.e., the median line drawn from the point of percussion.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axes.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Hilp-3 and Hilp-7 Utilized Flakes

Cat. No.	Unit	Level	Condition	Raw Material	Outline	Location of Retouch	Cortex	Longitudinal	Transverse	Edge Profile	Length	Width	Thickness	Weight
Hilp-3 96	30-40S 10-20L	0	Complete	Chert	Ovate	L.L.	Absent	Convex Concave	Biconvex	Square	54.5	21.1	3.8	1.9
Hilp-3 504	0-10S 0-10W	1	Complete	Basalt	Trapezoidal	All edges	Present	Biconvex	Biconvex	Acute	29.5	29.4	3.4	3.2
Hilp-3 51	0-15S 0-10W	1	Complete	Quartz	Irregular	L.L. R.L.	Present	Irregular	Irregular	Acute	21.1	41.2	9.7	4.1
Hilp-3 604	0-10S 0-10W	1	Complete	Quartz	Irregular	R.L.	Present	Irregular	Irregular	Acute	25.2	30.3	13.5	10.1
Hilp-3 609	0-10S 0-10W	1	Complete	Quartz	Irregular	R.L. Distal	Present	Concave Convex	Triangular Convex	Acute	33.2	19.0	11.7	5.6
Hilp-3 631	0-10S 0-10W	1	Complete	Basalt	Irregular	L.L.	Present	Convex Concave	Biconvex	Acute	20.9	26.1	6.7	3.3
Hilp-3 655	0-10S 0-10W	1	Complete	Quartz	Irregular	R.L. L.L. Distal	Absent	Irregular	Irregular	Acute	49.4	25.5	12.2	14.9
Hilp-3 714	0-10S 20-30W	0	Complete	Chert	Irregular	R.L.	Absent	Convex Concave	Biconvex	Acute	23.9	17.6	2.5	0.5
Hilp-3 N60	10-20S 0-10W	0	Complete	Chert	Irregular	L.L. R.L.	Present	Irregular	Irregular	Acute	29.0	15.5	12.4	4.8
Hilp-3 1220	15-30S 15-30L	1	Complete	Chert	Irregular	L.L.	Present	Irregular	Irregular	Acute	23.2	10.5	8.7	1.7
Hilp-3 1405	0-10S 0-10W	0	Complete	Quartz	Irregular	L.L. Distal	Present	Biconvex	Irregular	Acute	54.2	55.7	15.7	40.4
Hilp-3 1434	0-10S 10-20W	0	Complete	Chert	Irregular	R.L.	Absent	Plane Concave	Plane Convex	Acute	29.8	25.1	4.6	1.9
Hilp-3 1460	0-10S 20-30W	1	Complete	Quartz	Irregular	R.L.	Present	Irregular Concave	Triangular Concave	Acute	40.6	20.9	16.9	14.6

Hilp-3 and Hilp-7 Utilized Flakes

Cat. No.	Unit	Level	Condition	Raw Material	Outline	Location of Retouch	Cortex	Longitudinal	Transverse	Edge Profile	Length	Width	Thickness	Weight
Hilp-3 1726	10-20S 10-20W	1	Complete	Quartz	Irregular	L.L. Distal	Present	Biconvex	Triangular Convex	Acute	22.5	23.0	8.5	5.8
Hilp-3 1750	10-20S 10-20W	1	Complete	Quartzite	Ovate	R.L.	Present	Irregular	Triangular Convex	Acute	34.1	29.4	15.0	14.3
Hilp-3 1859	13-20S 10-20W	1	Complete	Siltstone	Lamellar	R.L.	Present	Convex Concave	Triangular Convex	Acute	51.6	14.0	4.9	1.9
Hilp-3 1862	13-20S 10-20W	1	Complete	Siltstone	Irregular	L.L. R.L. Distal	Present	Concave Plano	Biconvex	Acute	34.7	26.7	6.4	5.6
Hilp-3 1864	10-20S 10-20W	1	Complete	Quartz	Irregular	R.L.	Present	Convex Plano	Biconvex	Square	15.7	16.9	3.0	0.4
Hilp-3 1866	10-20S 10-20W	1	Complete	Siltstone	Lamellar	R.L.	Present	Convex Concave	Triangular Convex	Square	52.4	20.7	7.6	7.4
Hilp-3 1868	13-20S 10-20W	1	Complete	Siltstone	Irregular	L.L. R.L.	Present	Concave Convex	Biconvex	Square	36.6	29.5	5.5	4.5
Hilp-3 2072	15-30S 0-15L	0	Complete	Quartzite	Triangular	R.L.	Present	Biconvex	Biconvex	Acute	17.6	55.1	5.1	2.7
Hilp-3 2322	15-30S 0-15L	1	Complete	Quartz	Lamellar	L.L. R.L.	Present	Convex Concave	Biconvex	Acute	26.5	11.8	2.7	0.5
Hilp-3 2523	15-30S 0-15L	1	Complete	Quartzite	Irregular	R.L.	Present	Convex Concave	Irregular Convex	Acute	25.5	25.8	5.9	5.0
Hilp-3 2557	0-15S 15-30L	1	Complete	Quartz	Irregular	L.L.	Present	Biconvex	Biconvex	Acute	30.5	25.5	5.8	3.6
Hilp-3 2519	40-50S 10-20L	1	Complete	Quartz	Rectangular	L.L.	Present	Convex Concave	Biconvex	Acute	20.1	19.2	5.7	2.5
Hilp-3 243		0	Complete	Quartz	Irregular	L.L.	Absent	Irregular	Irregular	Acute	55.6	16.9	13.2	10.1
Hilp-3 243		0	Complete	Quartz	Irregular	R.L. L.L.	Present	Irregular	Irregular	Acute	60.5	25.8	15.4	19.2
Hilp-3 243		0	incomplete	Quartz	A.A.	L.L. R.L.	Absent	A.A.	Biconvex	Acute	17.2	11.0	4.2	0.2

APPENDIX VIII

HiLp-3 Chithos

A. Chitho Attribute Definitions

B. Metric and Non-metric Attributes of Chithos

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the site were surface (0), 1 (moss and moss-sand interface), 2 (0-10 cm into sand), 3 (10-20 cm into sand), 4 (20-25 cm into sand), 5 (25-30 cm into sand).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit.

Condition: refers to whether the specimen is complete or incomplete.

Raw Material: the lithic material used.

Outline: the gross geometrical shape of the specimen.

1. Ovate: the outline resembles the shape of an egg.
2. Semilunar: the outline resembles a half moon.
3. Trapezoidal: a four-sided figure with two parallel sides of unequal length.

Location of Retouch: the edges which have been crudely flaked or ground, i.e. distal, proximal, left or right lateral.

Cortex: the presence or absence of the natural outer covering of the nodule.

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axes. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axes. The dorsal surface outline is stated first.

Edge Profile: refers to the cross-section of the flaked edge. It is either acute ($\angle$), square ($\sphericalangle$) or round ($\frown$).

Length: the maximum length of the specimen in mm taken along the longitudinal axis.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis along the transverse axis.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Hilp-3 Chithos

Cat. no.	Unit	Level	Condition	Rock Material	Outline	Location of Refranch	Cortex	Longitudinal	Transverse	Edge Profile	Length	Width	Thickness	Weight
1432	0-10X 10-20g	1	Complete	Basalt	sem-lunar	Distal	Present	Convex-Concave	Biconvex	Square	53.4	41.8	9.4	20.4
1429	10-20X 0-10g	1	Complete	Quartzite	Ovate	R.L.	Present	Biconvex	Irregular	Round	85.0	59.4	30.4	139.0
1424	10-20X 10-20g	1	Incomplete	Micro-granite	Irregular	Distal	Present	Biplano	Biplano	Round	95.5	98.7	14.9	215.2
1423	0-10X 0-10g	1	Complete	Quartzite	Ovate	Distal	Present	Biplano	Biplano	Round	105.8	66.4	21.0	224.5
1407	30-40X 0-10g	1	Complete	Micro-granite	Sectorial	L.L.	Present	Plano-Convex	Biplano	Round	106.3	79.7	13.7	203.2
2410- 2410	30-40X 0-10g	1	Complete	Micro-granite	Ovate	All edges	Present	Irregular-Plano	Irregular-Plano	Round	214.0	175.0	19.8	1026.2
2408, 2409 & 2434	30-40X 0-10g	1	Incomplete	Micro-granite	Irregular	Distal	Present	Plano-Convex	Biplano	Round	112.5	119.4	13.5	290.6

APPENDIX IX

HiLp-3 Wedges

A. Wedge Attribute Definitions

B. Metric and Non-metric Attributes of Wedges

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the site were surface, 1 (moss and moss-sand interface), 2 (0-10 cm into sand), 3 (10-20 cm into sand), 4 (20-25 cm into sand) and 5 (25-30 cm into sand).

Depth: the actual measured depth in cm of the specimen below the surface of the sand within the unit. "B.M." means below moss.

Condition: refers to whether the specimen is complete or incomplete.

Length: the maximum length of the specimen in mm taken along the longitudinal axis.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axis along the transverse axis.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Raw Material: the lithic material used.

Blank Type: refers to the nature of the original flake blank.

1. Decortication Flake: the specimen retains some of the flake blank cortex which indicates that the flake blank was removed from the outer portion of the nodule.
2. Non-decortication Flake: no cortex is present on the flake blank and all indications are that the cortex was removed before the flake blank was removed.
3. Core: the flake blank exhibits the characteristics of a core rather than those of a flake.
4. Obscured: the flake blank has been modified obscuring the characteristics of the flake blank.

Outline: the gross geometric shape of the specimen.

1. Ovate: the outline resembles the shape of an egg.
2. Lamellar: a blade-like outline where edges are parallel or sub-parallel and the length is minimally twice the width.
3. Rhomboid: a lozenge shape where all sides are relatively equal but with no right angles.
4. Rectangular: all angles are approximately 90°.
5. Trapezoidal: a four-sided figure with two parallel sides of unequal length.
6. Irregular: the outline does not resemble any definable shape.

Longitudinal Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis. The dorsal surface outline is stated first.

Transverse Section: the geometric outline formed by the dorsal and ventral surfaces viewing the specimen from a proximal or distal end across the transverse axis. The dorsal surface outline is stated first.

Location of Retouch: the edges which exhibit hinge fracturing, crushing or retouch, i.e. proximal, distal, left and right lateral.

Edge Profile: refers to the shape of the cross-section of the flaked edge. It is either acute ($\angle$), square ($\angle$) or round ($\angle$).

Edge Plan View: refers to the outline of the edge viewed from the dorsal or ventral face.

1. Straight: the edge has a straight, even outline.
2. Serrated: the edge has a notched or sawlike outline.
3. Irregular: the edge has an irregular outline.

Transverse Edge Configuration: refers to the form of the edge when viewed laterally.

1. Straight: the edge forms a straight line.
2. Sinuous: the edge is wavy and may be grossly or slightly so.
3. Curvate: the edge is curved.

Edge Damage: refers to the condition of the edge. It may be crushed or it may exhibit several hinge or step fractures.

11iLp-3 Wedges

Unit	Level	Condition	Length	Width	Thickness	Weight	Raw Material	Blank Type	Outline	Sections Longitudinal	Transverse	Location of Bech	Edge Profile	Configuration Plan	Transverse Configuration	Fracture Image
579 0-105 3-106	1	Complete	36.6	28.5	12.7	13.7	Chert	Core	Irregular	Irregular	Irregular	Proximal Distal	Square	Irregular	Irregular	Crushing
583 0-105 0-106	1	Complete	27.8	18.7	7.7	4.7	Quartz	Core	Irregular	Biconvex	Irregular	Proximal Distal	Acute	Convex	Sinusoidal	Crushing
585 0-105 0-106	1	Complete	34.3	30.0	11.0	14.3	Quartz	Non decorative cotton flake	Irregular	Irregular	Irregular	Proximal Distal	Square	Straight	Curvate	Crushing
1000 0-105 0-106	0	Complete	29.0	25.1	11.7	7.6	Chert	Core	Irregular	Irregular- convex	Irregular- concave	Proximal Distal	Square	Broken	Irregular	Crushing
1000 0-105 0-106	1	Complete	45.5	21.8	8.7	13.1	Basaltic	Pebble	Lamellar	Biconvex	Biconvex	Proximal Distal	Square	Straight	Straight	Crushing
3002 0-105 0-106	1	Complete	25.1	10.8	6.4	2.5	Chert	Core	Irregular	Irregular	Irregular	Proximal Distal	Square	Scalloped	Sinusoidal	Crushing

APPENDIX X

HiLp-3 and HjLp-7 Hammerstones

A. Hammerstone Attribute Definitions

B. Metric and Non-Metric Attributes of Sample

Unit: the number assigned to the excavation unit or test pit.

Level: the number of the level in which the specimen was located. The standardized levels for the site were surface (0), 1 (moss and moss-sand interface), 2 (0-10 cm into sand), 3 (10-20 cm into sand), 4 (20-25 cm into sand) and 5 (25-30 cm into sand).

Condition: refers to whether the specimen is complete or incomplete.

Raw Material: the lithic material used.

Outline: the gross geometrical shape of the specimen.

1. Ovate: the outline resembles the shape of an egg.
2. Elliptical: the outline is shaped like an ellipse.
3. Circular: the outline is shaped like a circle.

Length: the maximum length of the specimen in mm taken along the longitudinal axes.

Width: the maximum distance in mm between the lateral edges taken perpendicular to the longitudinal axes along the transverse axes.

Thickness: the maximum distance in mm taken perpendicular to the longitudinal and transverse axes.

Weight: the weight of the specimen in grams.

Cat. No.	Unit	Level	Condition	Raw Material	Outline	Length	Width	Thickness	Weight
HiLp-3 1422	0-10N 10-20W	0	Complete	Granite	Ovate	64.0	46.0	42.7	184.3
HiLp-3 1936	0-15S 15-30E	1	Complete	Quartzite	Ovate	53.1	33.9	27.1	69.1
HiLp-3 2441	40-50S 10-20E	0	Complete	Granite	Ovate	65.1	48.0	32.9	148.4
HiLp-3 2571	0-15S 0-15E	1	Complete	Quartzite	Ovate	64.6	45.4	31.5	114.8
HiLp-3 2575	0-15S 0-15E	1	Complete	Granite	Ovate	85.7	56.6	43.3	283.8
HjLp-7 11		0	Complete	Granite	Ovate	52.8	39.6	35.3	98.6

PLATES

PLATE 1

Lithic Tools from HiLp-3

- A. 2156 a late Middle Taltheilei projectile point
- B. 1605 a late Shield Archaic projectile point
- C. 2157 a possible Terminal Woodland projectile point
- D. 1604 an untyped side-notched projectile point fragment
- E. 2814 a late Shield Archaic projectile point
- F. 227 a tiny chert end scraper
- G. 3081 chert end scraper
- H. 1865 chert end scraper
- I. 1869 chert end scraper
- J. 2074 chert end scraper
- K. 1984 chert side scraper
- L. 14 chert side scraper
- M. 998 chert end scraper
- N. 3080 chert end scraper
- O. 997 chert end scraper
- P. 681 quartz end scraper
- Q. 130 and 131 chert biface
- R. 713 chert biface
- S. 1707 chert biface
- T. 2533 a Terminal Woodland drill

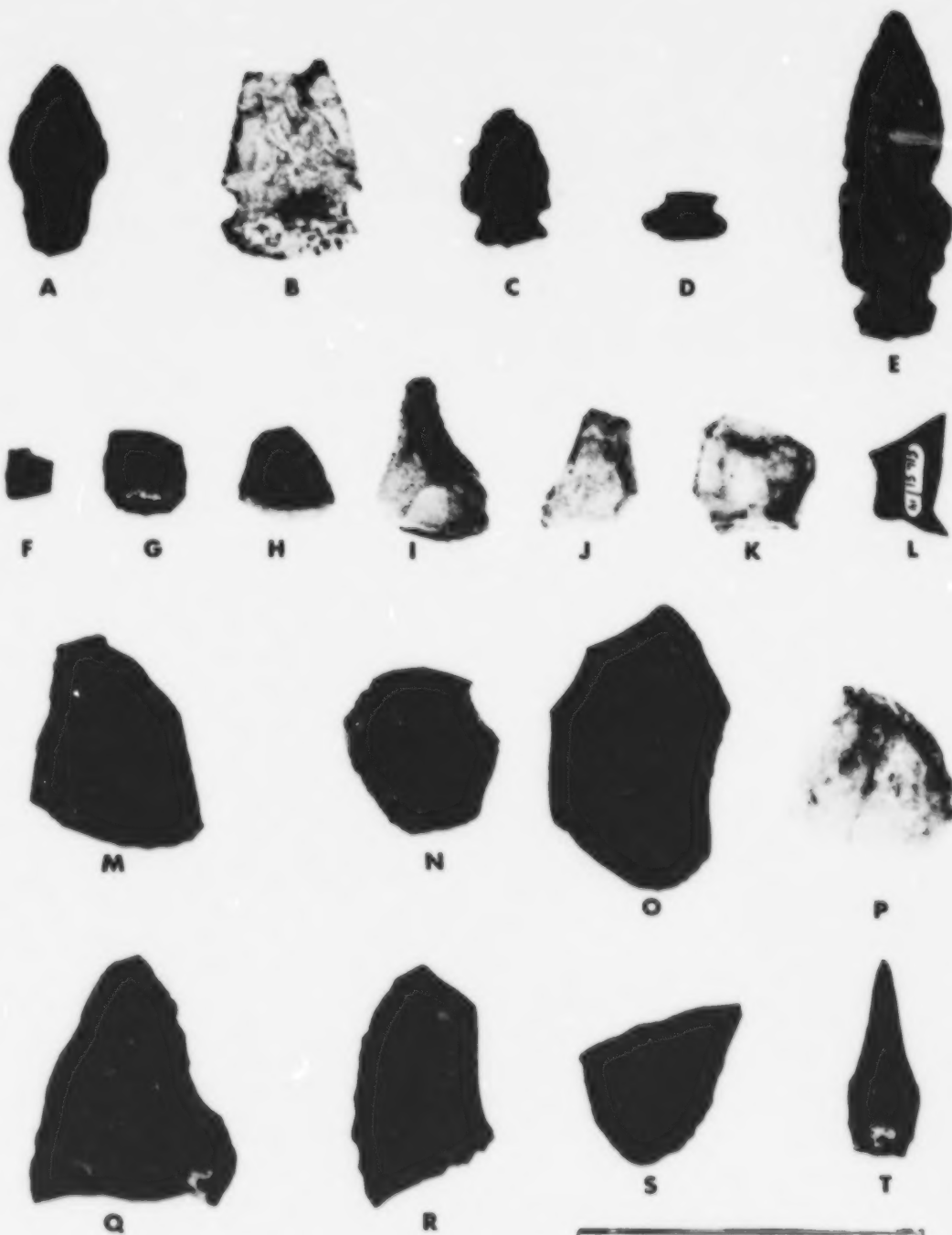


PLATE 2

Lithic Tools from Hilp-3

- A. 2320 a Terminal Woodland adze
- B. 579 chert wedge
- C. 2127 chert biface fragment
- D. 1435 chert biface
- E. 689 chert biface fragment
- F. 80 chert end scraper
- G. 103 chert biface
- H. 97 quartz biface
- I. 3069 shale retouched flake
- J. 2625 siltstone biface



A



B



C



D



E



F



G



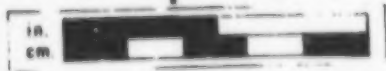
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I



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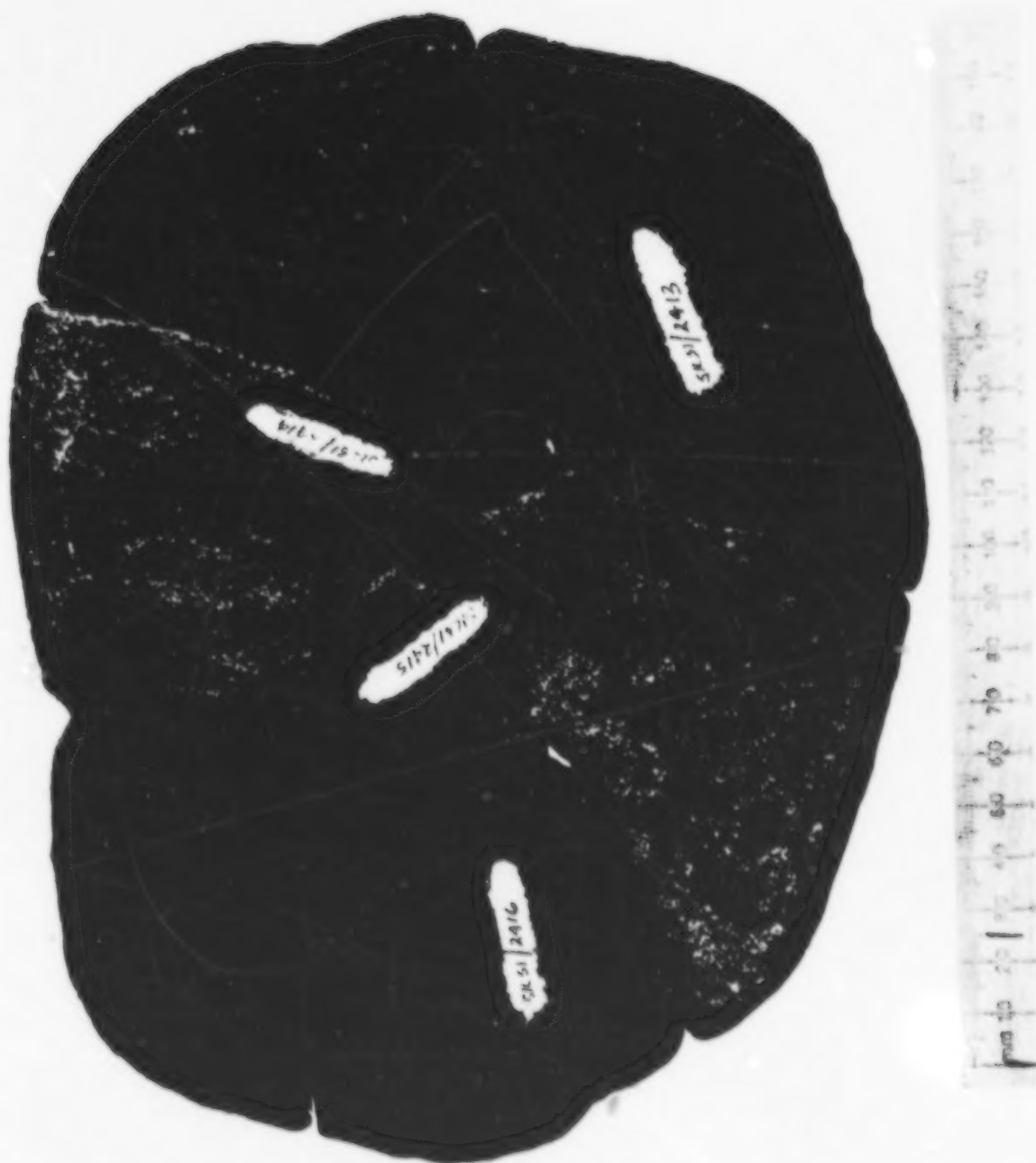


PLATE 3 Hilp-3/2410-2416 large micro-granite chitho.



PLATE 4 Chithos from HILp-3: A. 2407, B. 2153, C. 2402, 2408 and 2434.

PLATE 5

Miscellaneous Lithic Tools

- A. HJLp-7/265 a Terminal Woodland projectile point
- B. HJLp-7/264 chert end scaper
- C. HILp-5/4 and 5 chert side scraper
- D. HJLp-7/18 chert retouched flake
- E. HILp-5/68 chert retouched flake
- F. HJLp-8/39 chert retouched flake
- G. HJLp-7/5 quartz biface fragment
- H. HJLp-7/72 chert retouched flake
- I. HILp-3/2647 ground rhyolite flake
- J. HILp-3/1660 basaltic wedge
- K. HILp-3/1873 whetstone



PLATE 6 Exterior of a partially reconstructed plate with very smoothed exterior fabric impressions from HILP-3, Vessel 38.



PLATE 7 Partially reconstructed
Clearwater Lake Punctate
plate from Hllp-4,
Vessel 1. Note the
drilled hole in the base

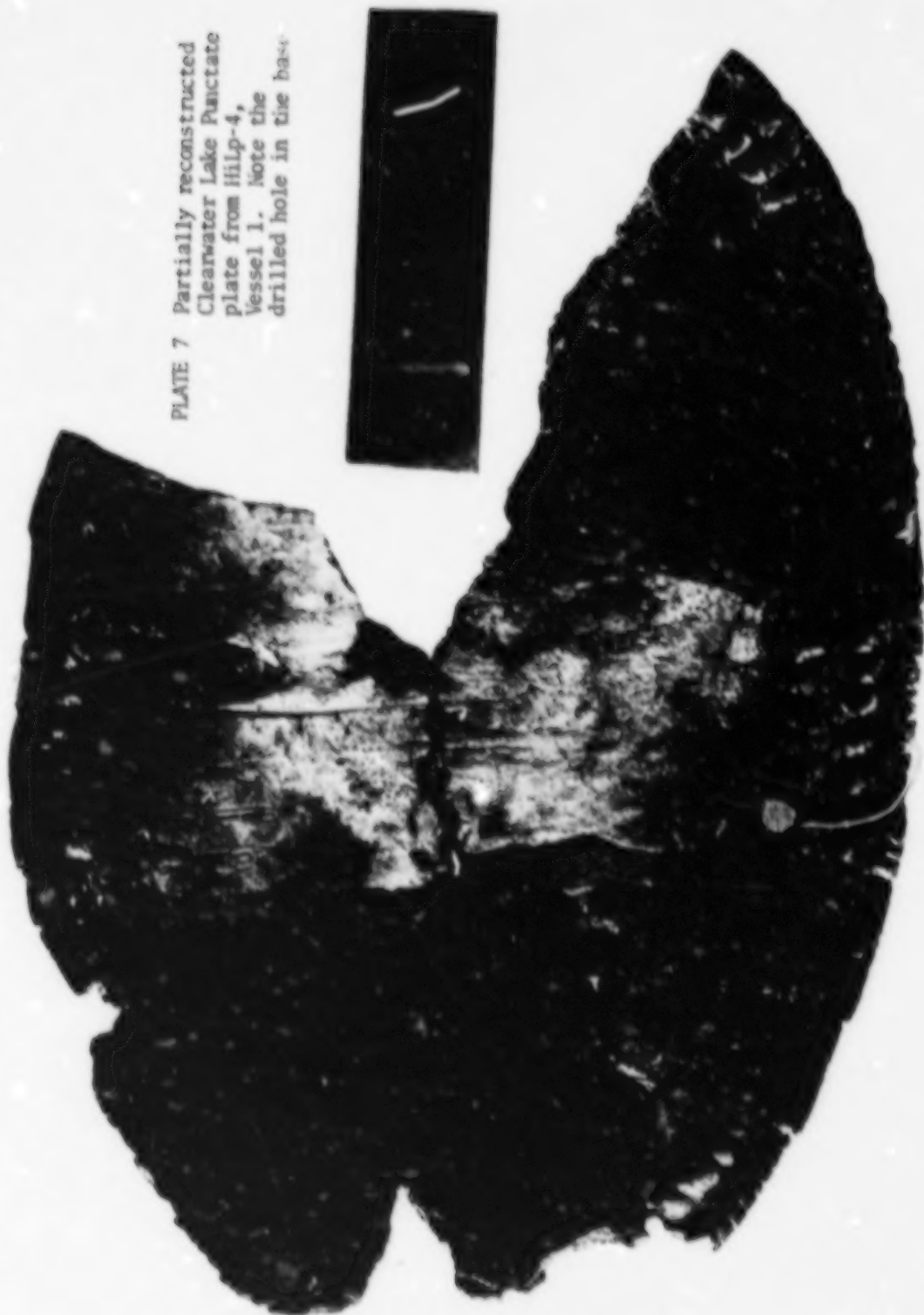




PLATE 8 Reconstructed Clearwater Lake Punctate plate with an unusual interior design from HiLp-3, Vessel 40. Note the drilled hole in the center.

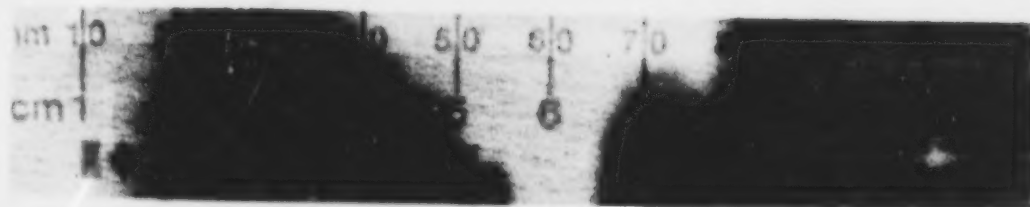


PLATE 9 Partially reconstructed small Clearwater Lake Punctate
pot from HiLp-3, Vessel 8.

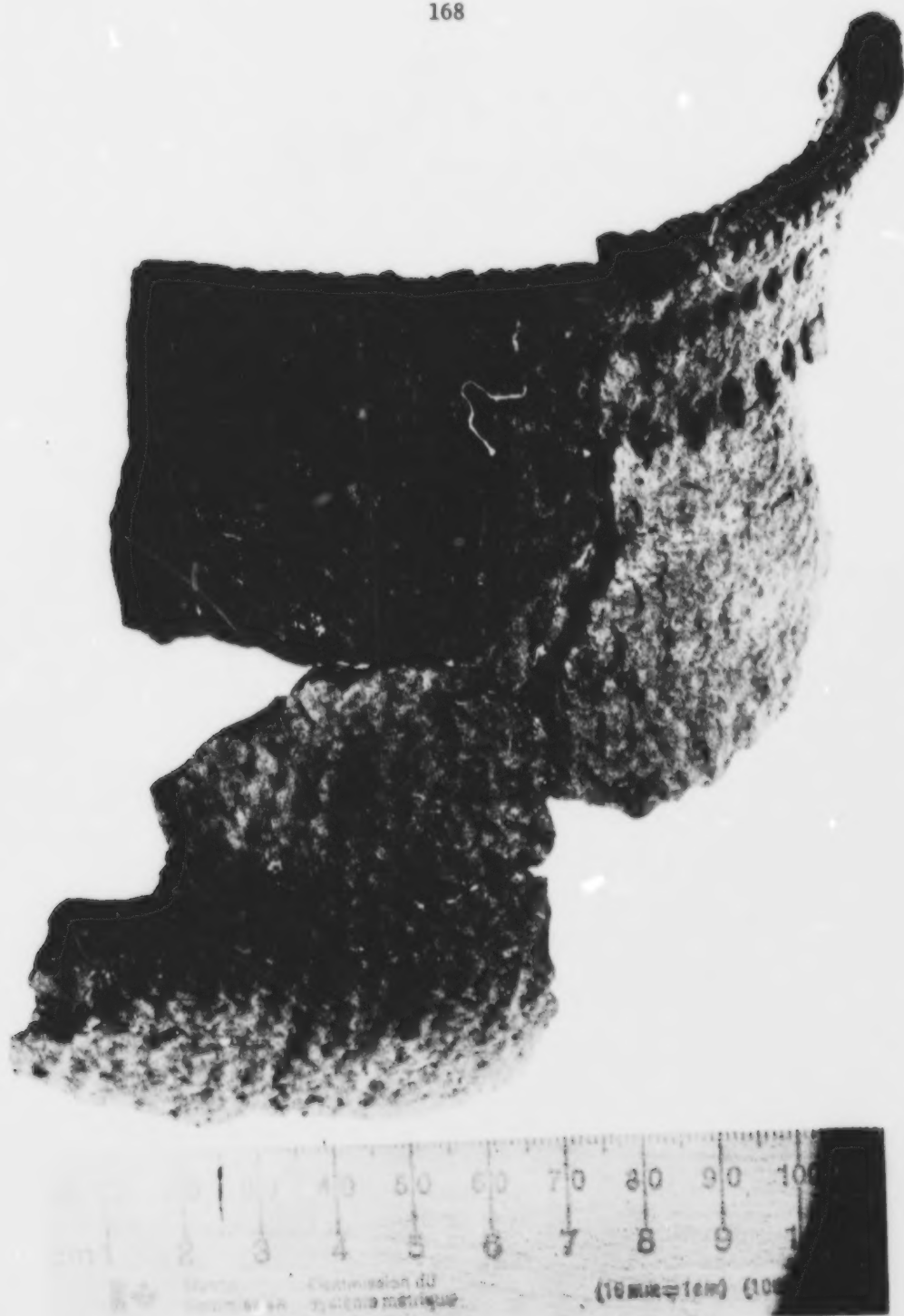


PLATE 10 Partially reconstructed Clearwater Lake Punctate pot from HiLp-3, Vessel 1. Pot has two rows of punctates, a piceated lip, smoothed interior and an undefined shoulder.



PLATE 11 Partially reconstructed Clearwater Lake Punctate pot from HiLp-3, Vessel 3. Pot has two rows of punctates, a cord-impressed lip, a fabric-impressed interior and an undefined shoulder.



PLATE 12 Partially reconstructed Clearwater Lake Punctate pot from Hilp-3, Vessel 5. Pot has one row of punctates, a piceated lip, a smoothed interior, a high rim and a well defined shoulder.



CM

CM

PLATE 13 Partially reconstructed Clearwater Lake Punctate pot from HiiLp-3, Vessel 6. Pot has two rows of punctates and a smoothed interior. It is undecorated except for a few piceations on one section of the lip.

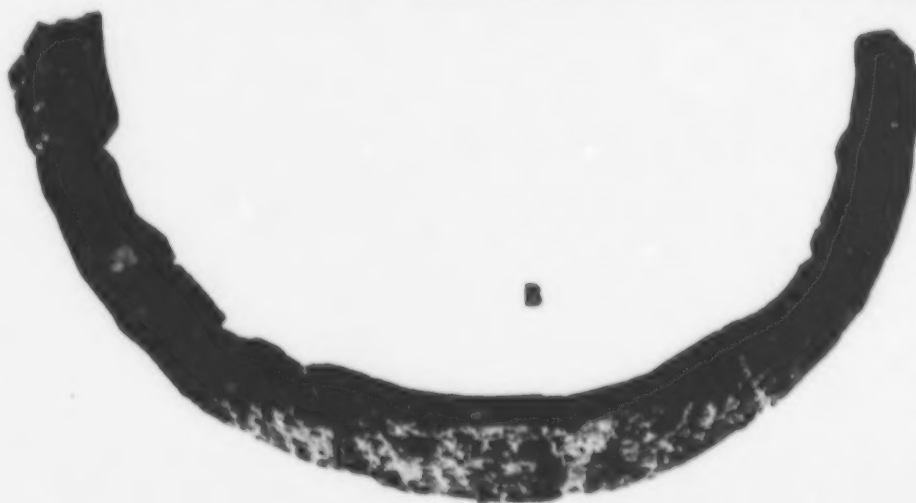
PLATE 14

Partially Reconstructed Clearwater Lake
Punctate Pots from HiLp-3

- A. Vessel 21 large pot with no decoration, one row of punctates, a smoothed interior, smoothed exterior fabric impressions and a high rim.
- B. Vessel 20 smaller pot with no decoration, one row of punctates, a smoothed interior, smoothed exterior fabric impressions and a moderately high rim.



A



B

PLATE 15

Clearwater Lake Punctate Pot Variations

- A. Pot with a low rim and a defined shoulder from HiLp-5, Vessel 1.
- B. Pot with a low rim and a less well defined shoulder from HiLp-7, Vessel 1.
- C. Pot with a high rim and an undefined shoulder from HJLp-8, Vessel 1.



PLATE 16

Clearwater Lake Punctate Vessels with
Two Rows of Punctates

- A. Pot with piceated lip from HJLp-7, Vessel 1. Note the large piece of temper on the left side in the upper punctate row. It extends completely through the vessel.
- B. Pot with pronounced cord-impressions on the lip from HJLp-3, Vessel 25.
- C. Plate with cord impressions on the lip from HJLp-7, Vessel 12. Note smoothing of impressions on outer edge.
- D. Pot with partially obscured cord impressions on lip from HJLp-7, Vessel 2.
- E. Pot with no decoration on the lip from HJLp-7, Vessel 3. Compare this vessel with vessel at D.



A



B



C



D



E



PLATE 17

Decoration on Clearwater Lake Punctate Vessels

- A. CWOL's on interior rim of a pot from HiLp-3, Vessel 36.
- B. Punctated lip on a pot from HiLp-3, Vessel 35.
- C. Punctated lip with some shallow interior punctates on plate from HiLp-3, Vessel 37.
- D. Notched lip of large pot from HJLp-7, Vessel 11.
- E. Fingernail incisions on the interior rim of a pot from HJLp-8, Vessel 1. Note this was the only section which had the incisions.



A



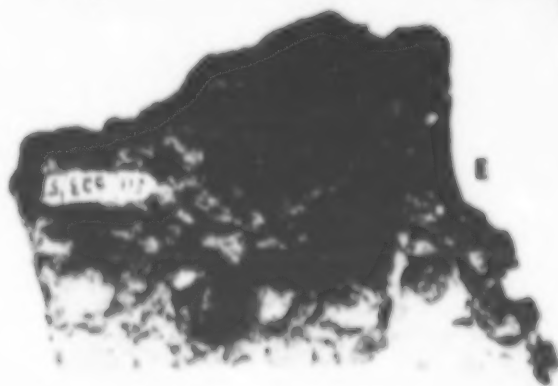
B



C



D



E



PLATE 18

Exterior Surface Finish and Punctates on
Clearwater Lake Punctate Vessels

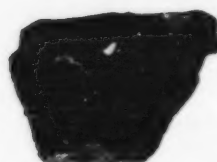
- A. Smoothed and exfoliated exterior of plate from HiLp-3, Vessel 28. Note double punctates on right hand side and the impressions of a spruce twig just above the second punctate from the left.
- B. Smoothed exterior of pot from HiLp-3, Vessel 14.
- C. Obliterated fabric-impressed exterior of pot from HjLp-3, Vessel 9. Note how close the punctate is to the lip.
- D. Obliterated fabric-impressed exterior of plate from HjLp-7, Vessel 10. Note extraordinary space between two of the punctates.
- E. Smoothed exterior of plate with an incised lip and small round or slightly elongated punctates from HiLp-3, Vessel 16.



A



B



C



D



E



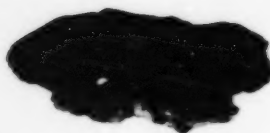
PLATE 19

Interior Surface Finish and Decoration on
Clearwater Lake Punctate Vessels

- A. Piceated interior rim of plate from HJLp-7, Vessel 13.
- B. Piceated interior rim of plate from HiLp-3, Vessel 17.
- C. Punctated interior rim of plate from HiLp-3, Vessel 19. Note there are no exterior punctates.
- D. CWOI's on interior rim of pot from HJLp-7, Vessel 4.
- E. Smoothed interior rim of pot from HJLp-7, Vessel 16. Note the similarity with D.
- F. Cord impressions on interior lip of plate from HiLp-6, Vessel 2.
- G. CWOI's on interior rim of plate from HJLo-1, Vessel 3.
- H. Piceated interior lip and punctated interior of plate from HiLp-3, Vessel 32. Note piceations on interior surface below punctates.
- I. Piceated interior rim of pot from HJLo-1, Vessel 4. Note fabric impressions on interior of body.



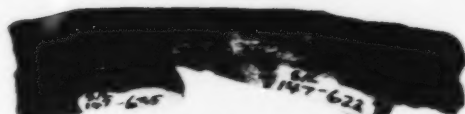
A



B



C



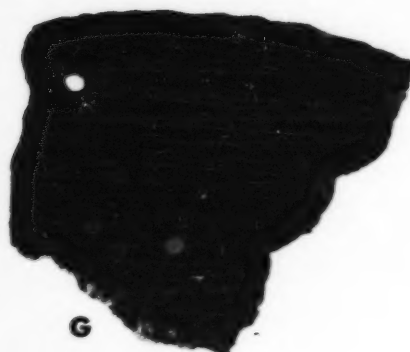
D



E



F



G



H



I



PLATE 20

Interior Surface Finish on Clearwater Lake
Punctate Vessels

- A. Smoothed interior of plate from HJLp-7, Vessel 5. Note the furrow made by a large piece of temper.
- B. Fabric-impressed interior of plate from HJLp-7, Vessel 6.
- C. Fabric-impressed interior of body sherd of a pot from HILp-3, Vessel 25.
- D. Smoothed and piceated interior of plate from HJLo-1, Vessel 1. Note the variation in the cord impressions on the lip.
- E. Fabric-impressed interior rim of plate from HILp-7, Vessel 7.

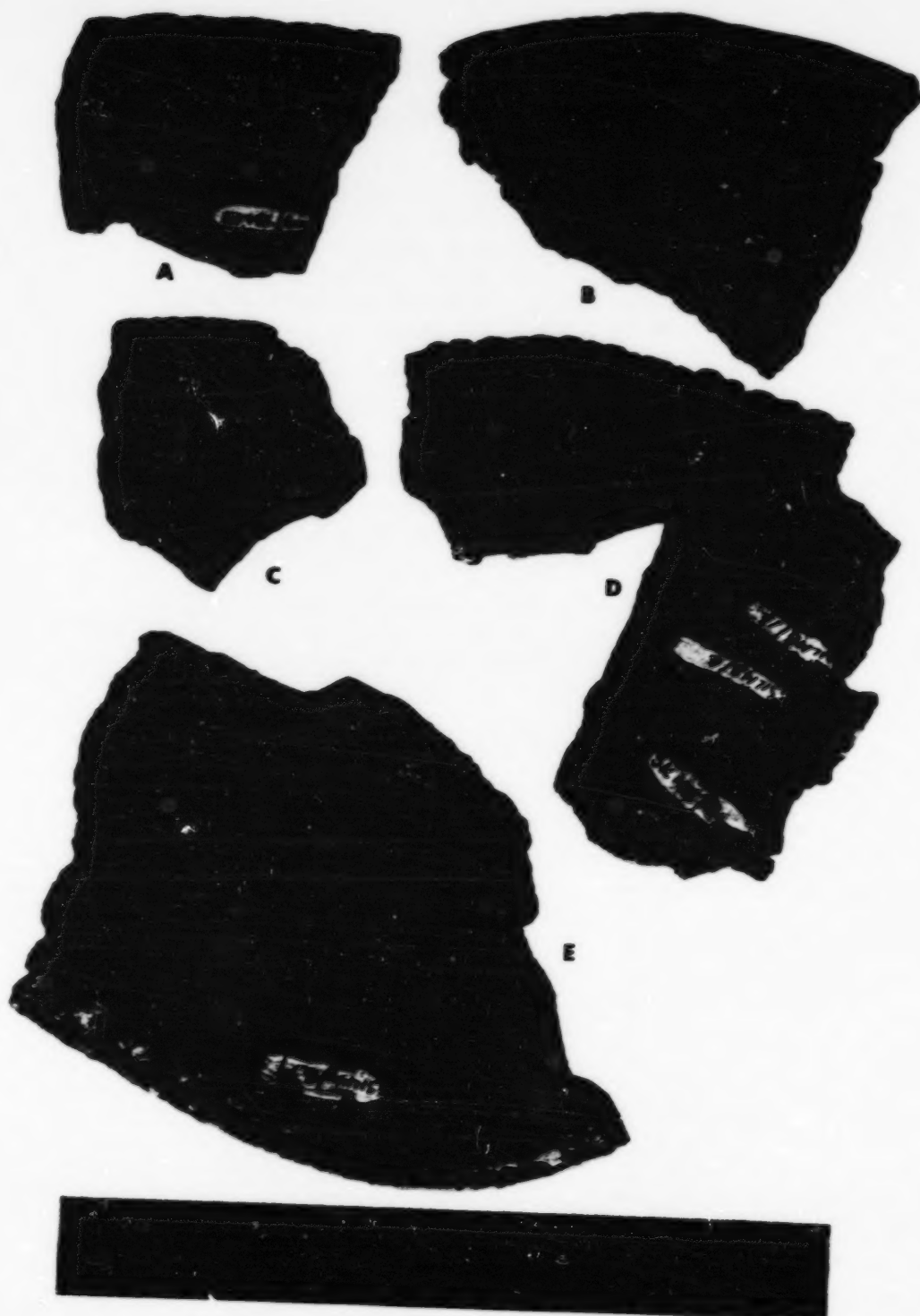
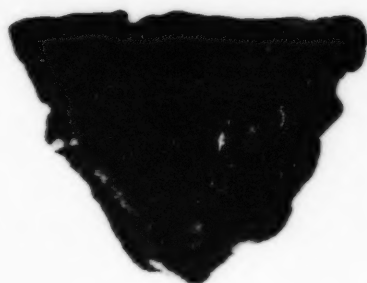


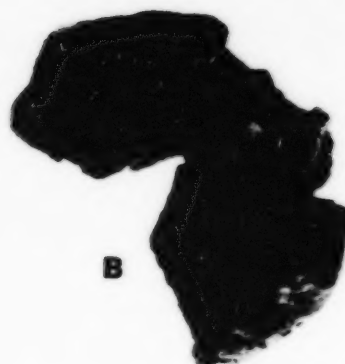
PLATE 21

Clearwater Lake Punctate Cups and Daub

- A. Cup with a smoothed exterior and one row of punctates from HJLp-7, Vessel 17.
- B. Cup with a smoothed exterior and one row of punctates from HJLp-7, Vessel 18. Note this vessel has a slightly constricted neck and may be a miniature pot.
- C. Cup with an obliterated fabric-impressed exterior and one row of punctates from HiLp-3, Vessel 11.
- D. Cup with an obliterated fabric-impressed exterior and two rows of punctates from HiLp-3, Vessel 24. Note part of the lip is piceated, but it is not consistent.
- E. Cup with an obliterated fabric-impressed exterior, two rows of punctates and an incised lip from HiLp-3, Vessel 23. Note how the incisions on the lip change direction.
- F. Exterior surface of piece of daub from HiLp-7.
- G. Interior of piece of daub with cylindrical impression from HiLp-7.



A



B



C



D



E



F



G

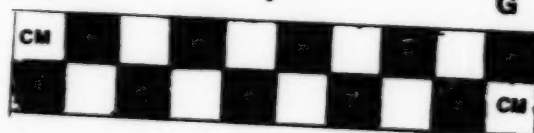


PLATE 22

Alexander Fabric-impressed Vessels

- A. Fabric-impressed exterior of plate from HiLp-3, Vessel 29.
- B. Fabric-impressed interior of plate from HiLp-3, Vessel 29.
- C. Fabric-impressed exterior of pot from HiLp-3, Vessel 10.
- D. Fabric-impressed interior rim of plate from HiLp-3, Vessel 4.
- E. Smoothed exterior of cup from HiLp-3, Vessel 27.
- F. Smoothed exterior of plate from HjLo-1, Vessel 5.
- G. Fabric-impressed exterior of plate from HiLp-7, Vessel 3.

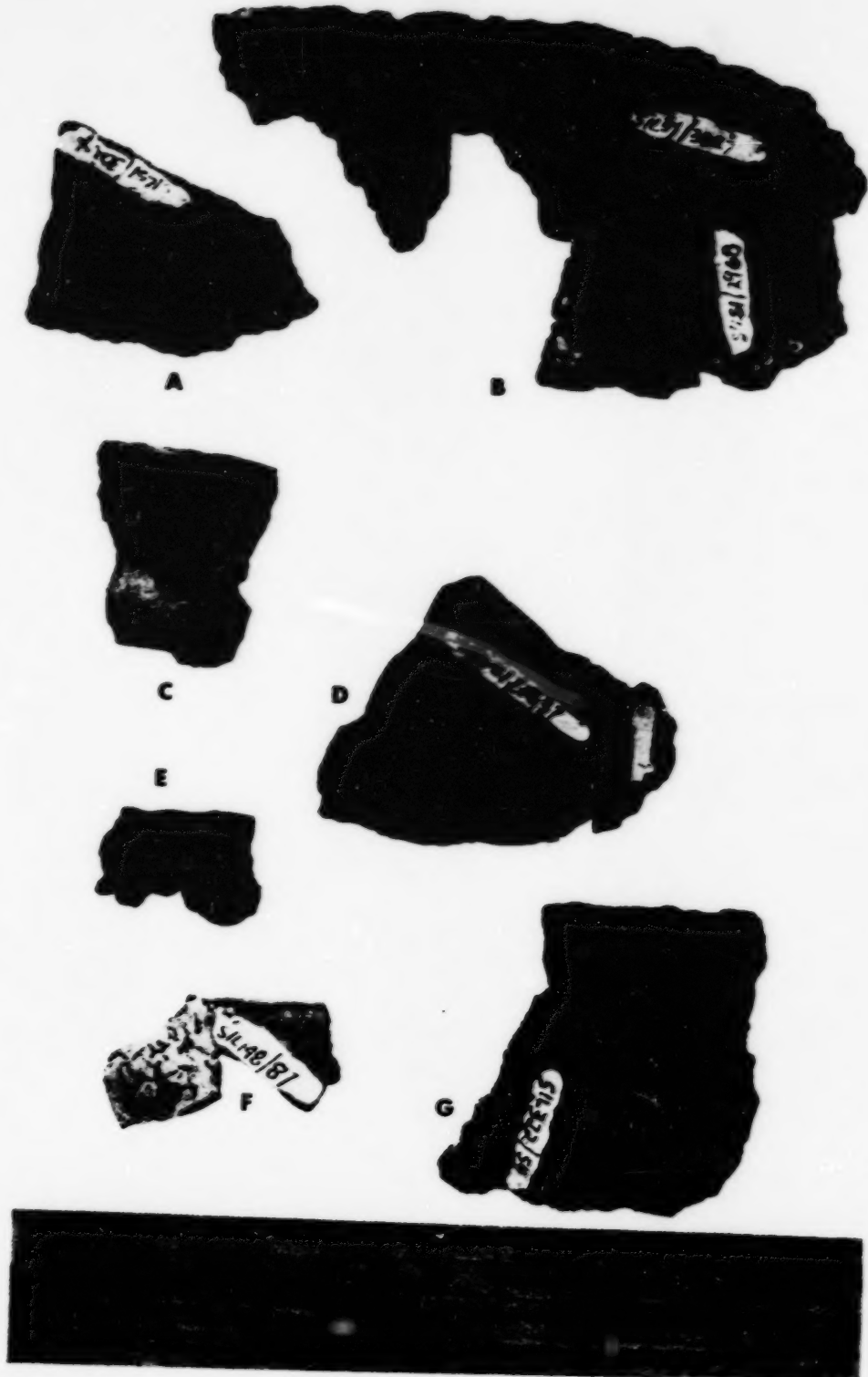
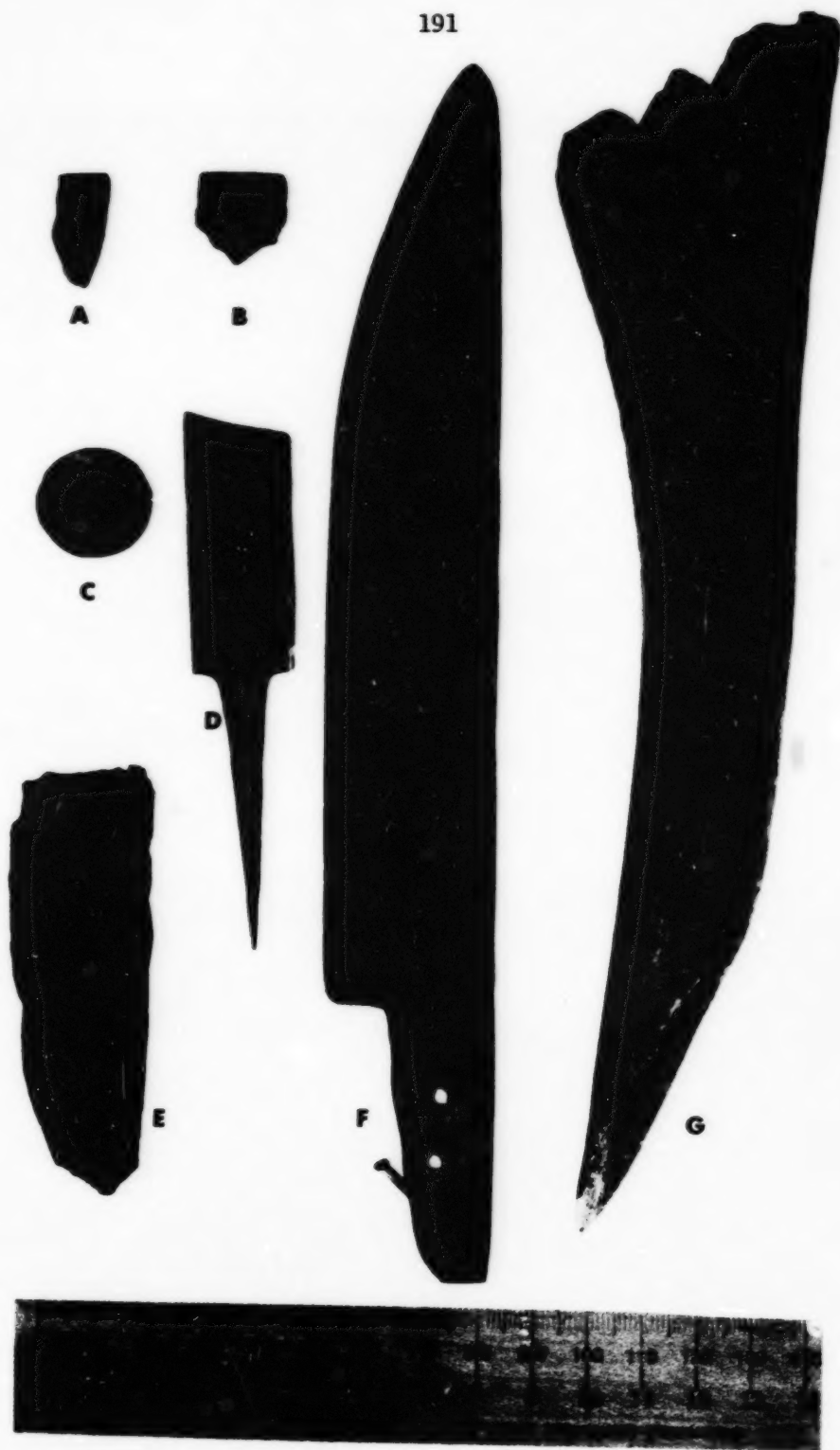


PLATE 23

Historic Artifacts from Hilp-3

- A. and B. 226 and 123 red clay pipe bowl fragments.
- C. 279 cast white-metal button.
- D. 1314 flat brass fragment.
- E. 127 flat file fragment.
- F. 1611 knife blade with trademark.
- G. 1645 caribou tibia flesher.





a) Aerial view of Hilp-3 with stripping in progress.



b) Initial clearing.



a) Removing the moss.



b) A portion of the area stripped

POOR

QUALITY

ORIGINAL